

A STUDY OF KOREAN DICTION FOR  
CHORAL CONDUCTORS USING  
THE PRINCIPLES OF THE KOREAN WRITING SYSTEM

by

SOOYEON LEE

JOHN H. RATLEDGE, COMMITTEE CHAIR

JOANNA C. BIERMANN

CRAIG P. FIRST

JUNSOO LEE

KENNETH B. OZZELLO

SUSAN E. WILLIAMS

A DOCUMENT

Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Musical Arts  
in the School of Music  
in the Graduate School of  
The University of Alabama

TUSCALOOSA, ALABAMA

2017

Copyright Sooyeon Lee 2017  
ALL RIGHTS RESERVED

## ABSTRACT

As both composing and performing multicultural choral music has increased, choral directors are required to obtain pronunciation of non-European languages. Many non-European languages are written in non-Romanized writing systems, but for convenience, the original lyrics are transcribed to the Roman alphabet in most choral music publications. Especially, Romanized Korean text in Korean choral music is often problematic due to inconsistencies in writing. Moreover, corresponding IPA symbols of Korean characters do not match current Korean diction materials.

The purpose of this study is to seek a better way to represent Korean text in the publications. It was found that the Korean script (*Hangeul*) is necessary to represent Korean lyrics in printed music for recognizing the original words and the exact sounds. As *Hangeul* is an unfamiliar writing system, this document discusses Korean pronunciation using the principles of *Hunminjeongeum* (the original name of the Korean writing system) to facilitate non-Korean speakers.

The corresponding phonetic features of Korean characters and IPA symbols were also analyzed to determine the most appropriate IPA symbols for Korean characters. Also, this document addresses several questions regarding inconsistency of the IPA symbols in the current Korean diction resources in the view of linguistic approach. For this reason, this document becomes more empirical than pedagogical. As the IPA symbols are used widely in diction manuals, the readers are required to have knowledge of the IPA symbols. The supplemental audio examples will be helpful to readers understand the Korean sounds.

As a result, this document provides groundwork for a future publication of a Korean lyric diction manual and music publications for presenting Korean text in both *Hangeul*, along with the official Romanization with additional information such as an IPA transcription of the Korean choral text and a word-for-word English translation.

## DEDICATION

This document is dedicated to my God, who has had a guiding hand, sending and providing just the right people who could and would work with me on this study. While I was studying Korean phonology and phonetics for this project, I was so amazed how God delicately created humans' speech organ. We produce thousands of different sounds without realizing the movement of our tongue. All the studies of human beings are probably learning God's profound knowledge through His creations. The following scripture verse inspired me during the research:

*Then God said, "Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground." (Genesis 1:26, NIV)*

## LIST OF ABBREVIATIONS AND SYMBOLS

|               |  |
|---------------|--|
| <i>a.k.a.</i> | Also known as                            |
| <i>CV</i>     | Consonant + Vowel                        |
| <i>CVC</i>    | Consonant + Vowel + Consonant            |
| <i>FC</i>     | Final consonant                          |
| <i>IPA</i>    | International Phonetic Alphabet          |
| <i>SSA</i>    | Soprano1, Soprano2, and Alto             |
| <i>SATB</i>   | Soprano, Alto, Tenor, and Bass           |
| <i>VC</i>     | Vowel + Consonant                        |
| <i>VOT</i>    | Voice onset time                         |
| <>            | For orthographic symbols                 |
| //            | For phonemic transcription               |
| [ ]           | For phonetic or allophonic transcription |
| *             | For tense consonants                     |
| <sup>h</sup>  | For aspirated consonants                 |
| <sup>̚</sup>  | For unreleased consonants                |

## ACKNOWLEDGMENTS

I have been extremely fortunate to have the assistance of many people while working on this document. First of all, I would like to express my sincere appreciation to Dr. John H. Ratledge, the chairman of this document, who has patiently worked with me in reading and editing my document since I proposed the document in 2014. He has devoted an enormous amount of his time to make the document better and share his opinions during all phases of this project. His artistic inspiration brought me here to the University of Alabama to pursue my doctorate in 2012 from South Korea and he has generously offered many opportunities that can advance my professional career. I will not forget his impressive lessons during his choir rehearsals, conducting lessons, and classes. It has truly been an honor and a privilege to study with him.

I would also like to express my deepest gratitude to Dr. Linda P. Cummins, Director of Graduate Studies, for her steadfast encouragement and support. She has made all the procedures possible and even helped me to get financial aid from the School of Music. I cannot imagine how she takes care of all the graduate students at the School of Music with her kind care and love. Without her careful concern, the completion of this document could not have happened.

I would like to acknowledge the members of the document committee for their time and advice: Dr. Susan E. Williams for her extra time to share the issues on the document and detailed comments; Dr. Joanna C. Biermann for catching crucial mistakes; Dr. Kenneth B. Ozzello and Dr. Junsoo Lee for their presence during their Sabbath and their commendation on my document;

and Dr. Craig P. First for approving and signing the document although he could not be present in the document meetings due to his ill health.

This research would not be possible without the collection of recent resources. I would like to thank the people who helped me to access the resources: my sister, Juyeon Lee, from Yale University, Hyejung Jun from Emory University, and Hanah Noh and Younghee Kim from Yonsei University. Particularly, I want to thank Professor Ji-Hyung Kim at Kyounghee Cyber University who greatly influenced my document with his expertise in Korean language and *Hunminjeongeum*. He never denied answers to my questions and quickly responded through Facebook message despite the long distance. His student, Hanmi Cho, made this wonderful connection and I pray for her complete healing from her cancer. Jonghee Shadix at University of Alabama in Birmingham shared her knowledge and thoughts about the English and Korean pronunciation.

I would also like to thank the people in Tuscaloosa. Terejina Kim has been dedicated to helping and supplying whatever whenever I have a need. She always takes care of my baby whenever I have to focus on my document. I cannot repay her unconditional love. Matthew Alan Edwards always devoted his time to assist me with good friendship. Heather Roach and several other staff members at the UA writing center worked with me on any English grammar issues in my document. Lovely women from the LiFe campus ministry including Lisa, Jennifer and Ellen cared for my baby with their whole heart. The members of Tuscaloosa Korean Presbyterian Church and St. Paul's Anglican Church loved my baby and prayed for my successful completion.

Finally and most importantly, I am so pleased to take this opportunity to thank my whole family for their extreme patience and invaluable contributions to the completion of this document. I never imagined that I was going to be married and give birth before I finished my

doctorate. Although this huge life change was one of the reasons that delayed the completion of the document, I am so grateful that I can share this joyful moment with my beloved husband, Somang, and my adorable daughter, Angela. Also, special thanks to my mother-in-law who came to the United States to help with nursing the baby for three months and to my parents, who always stand by me with their endless prayer.

## CONTENTS

|   |      |
|---|------|
| ABSTRACT.....   | ii   |
| DEDICATION.....   | iv   |
| LIST OF ABBREVIATIONS AND SYMBOLS.....                        | v    |
| ACKNOWLEDGMENTS.....  | vi   |
| LIST OF TABLES.....   | xii  |
| LIST OF FIGURES.....  | xiii |
| LIST OF EXAMPLES.....   | xv   |
| LIST OF ILLUSTRATIONS.....                                    | xvi  |
| CHAPTER I. INTRODUCTION.....                                  | 1    |
| CHAPTER II. THE KOREAN WRITING SYSTEM.....                    | 5    |
| a. Background and History.....                                | 5    |
| b. The Principles.....  | 13   |
| c. Special Characteristics.....                               | 14   |
| CHAPTER III. SHAPES AND SOUNDS<br>OF KOREAN VOWELS.....       | 19   |
| a. Shapes of Korean Vowels.....                               | 19   |
| b. Vowel Mechanism.....                                       | 23   |
| c. Sounds of Korean Vowels in the <i>Hunminjeongeum</i> ..... | 24   |
| d. Sounds of Korean Vowels Today.....                         | 26   |
| i. Simple Vowels.....   | 26   |

|   |    |
|---|----|
| ii. Summary of Simple Vowels.....                           | 31 |
| iii. Complex Vowels .....                                   | 38 |
| iv. Summary of Complex Vowels.....                          | 42 |
| CHAPTER IV. SHAPES AND SOUNDS                               |    |
| OF KOREAN CONSONANTS .....                                  | 44 |
| a. Consonant Mechanism.....                                 | 44 |
| b. Shapes of Korean Consonants .....                        | 46 |
| c. Sounds of Korean Consonants .....                        | 50 |
| i. Sounds of Bilabial Consonants (ㅁ, ㅂ, ㅃ, ㅄ) .....         | 54 |
| ii. Sounds of Alveolar Consonants (ㄴ group & ㄷ group) ..... | 59 |
| iii. Sounds of Alveolo-palatal Consonants (ㅈ, ㅊ, ㅌ).....    | 63 |
| iv. Sounds of Velar Consonants (ㄱ, ㅋ, ㆁ, ㅇ).....            | 65 |
| v. Sounds of Glottal Consonants (ㅎ).....                    | 66 |
| vi. Summary.....  | 67 |
| CHAPTER V. SYLLABIFICATION.....                             |    |
| a. Syllable blocks .....                                    | 68 |
| b. Pronunciation of final consonants.....                   | 72 |
| i. Final consonants in a single syllable.....               | 72 |
| ii. Final consonants before vowels.....                     | 76 |
| iii. Final consonants before consonants .....               | 78 |
| CHAPTER VI. ROMANIZATION .....                              |    |
| a. Limits of Romanization.....                              | 81 |
| b. The official Romanization system of Korean .....         | 85 |

|  |     |
|--|-----|
| c. Suggested Romanization and IPA for selected publications..... | 88  |
| CHAPTER VII. CONCLUSION .....                                    | 95  |
| REFERENCES .....   | 98  |
| APPENDIX A – COMPARISON IPA CHART.....                           | 104 |
| APPENDIX B – IPA VOWEL SYMBOLS<br>NAMES DESCRIPTIONS .....       | 106 |
| APPENDIX C – THE INTERNATIONAL<br>PHONETIC ALPHABET .....        | 107 |
| APPENDIX D – EXTRA IPA SYMBOLS FOR<br>DISORDERED SPEECH .....    | 108 |
| APPENDIX E – LIST OF AUDIO EXAMPLES.....                         | 109 |

## LIST OF TABLES

|   |    |
|---|----|
| 2.1 Relationship Between the Five Elements and the Other Phenomena..... | 17 |
| 2.2 The Three Basic Vowel Symbols .....                                 | 17 |
| 2.3 <i>Ying</i> and <i>Yang</i> on Korean Vowels .....                  | 18 |
| 3.1 Korean Vowel Chart based on the <i>Hunminjeongeum</i> .....         | 25 |
| 3.2 Korean Simple Vowel Chart without a Central Position .....          | 27 |
| 3.3 Korean Simple Vowel Chart with a Central Position .....             | 28 |
| 3.4 The Value of Features on the Korean Simple Vowels.....              | 30 |
| 3.5 Four Semi-Vowels with their Correspondence Vowels.....              | 40 |
| 3.6 [j]-Diphthongs.....   | 42 |
| 3.7 [w]-Diphthongs .....  | 43 |
| 3.8 Various Pronunciations on -] .....                                  | 43 |
| 4.1 The IPA Chart for Pulmonic Consonants .....                         | 50 |
| 4.2 Consonants Classification According to the Degree of Harshness..... | 51 |
| 4.3 Korean Consonants with the IPA Symbols.....                         | 67 |
| 5.1 Possible Phonemes Forming Syllables in Korean .....                 | 69 |
| 5.2 Examples of the First Case in Aspiration .....                      | 80 |
| 6.1 Different Romanizations in Current Music Publications.....          | 82 |
| 6.2 Consonants in the Official Romanization System .....                | 86 |
| 6.3 Vowels in the Official Romanization System.....                     | 87 |

## LIST OF FIGURES

|   |    |
|---|----|
| 3.1 Vocal Tract Labels.....                                       | 23 |
| 3.2 Daniel Jones’s Cardinal Vowels in the Vowel Quadrangle.....   | 29 |
| 3.3 Korean Simple Vowels on Figure 3.2.....                       | 29 |
| 3.4 The IPA Vowel Quadrangle with the Additional Materials .....  | 34 |
| 3.5 Vowel Triangle .....  | 34 |
| 3.6 Three Kinds of Diphthong Glidings .....                       | 39 |
| 4.1 Major Places of Articulation.....                             | 45 |
| 4.2 The Letterforms of the Five Basic Korean Consonants.....      | 46 |
| 4.3 Process of Creating Letters .....                             | 47 |
| 4.4 Degree of Harshness .....                                     | 47 |
| 4.5 The Nineteen Consonant Letters in the Five Categories .....   | 49 |
| 4.6 The Placements of Alveolar and Alveolopalatal Consonants..... | 53 |
| 4.7 Sound Mechanism of ㅍ .....                                    | 55 |
| 4.8 Sound Mechanisms of the Oral Stops.....                       | 55 |
| 4.9 Triple Fascia of Correlation .....                            | 56 |
| 4.10 Phases of Plosive Production .....                           | 56 |
| 4.11 Schematic Parametric Representation on Figure 4.10 .....     | 57 |
| 4.12 Sound Mechanism of ㅊ .....                                   | 60 |
| 4.13 Sound Mechanism of ㅋ, ㆁ, and ㆁ .....                         | 61 |

|  |    |
|--|----|
| 4.14 Sound Mechanism of ㄴ and ㄸ.....                     | 63 |
| 4.15 Sound Mechanism of ㅈ, ㅉ, and ㅊ.....                 | 64 |
| 4.16 Phases of Affricate Production .....                | 64 |
| 4.17 Sound Mechanism of ㅋ, ㆁ, and ㆏.....                 | 66 |
| 4.18 Sound Mechanism of ㅎ .....                          | 67 |
| 5.1 <i>Hangeul</i> as a Syllabic-Based Orthography ..... | 68 |
| 5.2 Various Types of Syllabic Forms in Korean.....       | 71 |
| 5.3 Tongue Placement of the Final Consonant, ㄱ .....     | 72 |
| 5.4 Tongue Placement of the Final Consonant, ㅋ .....     | 73 |
| 5.5 Tongue Placement of the Final Consonant, ㆁ .....     | 73 |
| 5.6 Tongue Placement of the Final Consonant, ㆏ .....     | 74 |
| 5.7 Tongue Placement of the Final Consonant, ㆑ .....     | 74 |
| 5.8 Tongue Placement of the Final Consonant, ㆕ .....     | 75 |
| 5.9 Tongue Placement of the Final Consonant, ㆏ .....     | 75 |

## LIST OF EXAMPLES

|  |    |
|--|----|
| 5.1 <i>Arirang</i> , mm.2 and 5 .....      | 76 |
| 5.2 <i>Arirang</i> , mm. 9.....            | 76 |
| 5.3 <i>Arirang</i> , mm. 10-11 .....       | 77 |
| 5.4 <i>Hangangsu Taryeong</i> , mm. 2..... | 77 |
| 5.5 <i>Hangangsu Taryeong</i> , mm. 4..... | 78 |

## LIST OF ILLUSTRATIONS

|  |    |
|--|----|
| 2.1 <i>Hunminjeongeum Eonhaebon</i> .....                                      | 7  |
| 2.2 Korea's National Treasure No. 70, <i>Hunminjeongeum Haryebon</i> .....     | 7  |
| 2.3 King Sejong's Preface in the <i>Weorinseokbo</i> (1459).....               | 9  |
| 2.4 Statue of King Sejong with the <i>Hunminjeongeum</i> on his left hand..... | 10 |
| 2.5 Korea's National Treasure No. 142, <i>Donggukjeongun</i> (1448).....       | 11 |

## CHAPTER I

### INTRODUCTION

Choral conductors' primary consideration for music making is often the text, which requires choral conductors to know both the meaning and pronunciation of words in order to interpret the music itself. If the language of the text is familiar to a conductor, it is much easier to produce clear and accurate diction; however, teaching unfamiliar languages provides unique challenges both to conductors and singers alike. Marsh Chase states in her dissertation, "Secondary Choral Music Educator's Training, Experience and Current Teaching Practice Concerning Foreign Language Diction and World Musics Repertoire," that choral directors are normally required to fulfill the dual tasks of teaching an unfamiliar language and music for performing ethnic and multicultural repertoires, which probably exceeds their capabilities.<sup>1</sup> As she states, it is always burdensome for choral conductors to prepare music in unfamiliar languages, but it is the conductor's responsibility to know the correct pronunciation of the languages, and be able themselves to demonstrate the text of the composition, even if native speakers are not available.

As both composing and performing multicultural choral music has increased in popularity and has become a mainstream in choral repertoire, choral conductors are required to obtain pronunciations of various languages including the lyrics in non-Romanized writing systems. Although the publishers use the spellings of the Roman alphabet to convey the sound of

---

<sup>1</sup> Shannon Maxine Marsh Chase, "Secondary Choral Music Educators' Training, Experience and Current Teaching Practice Concerning Foreign Language Diction and World Musics Repertoire" (Ph.D. Dissertation, The Florida State University, 2002), 1-2.

the language for the convenience of the majority of their customers, lack of information about the proper pronunciation of any given language often yields mispronunciation. Most Korean choral music published in the United States presents the texts only with the Romanized alphabet, which often causes inaccurate Korean pronunciation. For example, arrangements of the same Korean folk song produced by several different publishers with the same title in Korean are shown in different ways (e.g. ‘Arirang’ or ‘Ahrirang’ for 아리랑, ‘Doraji Taryeong’ or ‘Toraji Taryung’ for 도라지 타령). These spellings may produce similar sounds, but they are never conducive to correct pronunciation without guidance. Because the Korean language is misrepresented in these editions, publications should have both the Korean writing system, and Romanization included in their octavos.

The Korean writing system, *Hangeul* is a phonetic alphabet and visually reflects the mechanism of sound in human speech organs.<sup>2</sup> In other words, each letter has a certain distinctive feature, which is the most important element in figuring out a characteristic of a particular phoneme as American linguist Leonard Bloomfield (1887-1949) states.<sup>3</sup> *Hangeul*'s creation was documented in the *Hunminjeongeum* (훈민정음) with principles, explanations, and examples of its invention. This 15<sup>th</sup> century manuscript drew special attention from linguists because it deals with both phonetics and phonology in a way that Western linguistics did not establish until the late 19th century.<sup>4</sup>

Recent studies have discovered that knowing the principles of *Hunminjeongeum* makes it much easier for people to read Korean. Ji-Hyung Kim suggests in his article, “An Education

---

<sup>2</sup> Changwon Pak, *Hangeul Museum* (Seoul: Sungandang, 2011), 95.

<sup>3</sup> Hyeon-ok Ku, *Understanding of Korean Phonology*, Revised (Seoul, Korea: Hankookmunhwasa, 2010), 185.

<sup>4</sup> Jaewon Ban and Jungyun Huh, *Hangeul Invention Principles and Reuse of Old Characters* (Seoul: Youngnak, 2007), 13.

Plan for Korean Alphabet and Pronunciation Using the Invention Principle of *Hunminjeongeum*,” that it is an effective educational plan to teach the Korean alphabet and pronunciation using these principles in the early stage of Korean education because *Hunminjeongeum* represents the Korean language phonetics and the distinctive features of Korean pronunciation.<sup>5</sup> For this reason, this document will utilize the principles of the Korean writing system to facilitate non-Korean-speaking choral directors to be able to teach Korean texts to their choirs.

Although *Hangeul* is an accurate system for notating Korean diction itself, this unfamiliar writing system can be a barrier to non-Koreans to learn Korean diction. Therefore, this document will use the International Phonetic Alphabet (IPA), a phonetic notation that has been proven to be an effective transcription system for singers worldwide. Duane R. Karna and Sue Goodenow emphasize the benefit of the IPA in their article, “The Use of the IPA in the Choral Rehearsal,” that these symbols for sounds help choirs to produce uniformity of sound and more accurate diction.<sup>6</sup>

Unfortunately, many IPA symbols of Korean characters do not effectively match with the existing resources about Korean diction. As seen in the comparison chart at Appendix A, Korean letters are represented in several different IPA symbols without providing any reasons why the particular IPA symbols were chosen. Thus, this document will seek to align the most appropriate IPA symbols for corresponding Korean characters based on the phonetic features of the Korean characters. This document requires knowledge of the IPA for readers, but audio examples are provided to help readers understand the sound.

---

<sup>5</sup> Ji-Hyung Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of *Hunminjeongeum*,” *Korean Language and Literature* 147 (December 2007): 221–58.

<sup>6</sup> Duane R. Karna and Sue Goodenow, “The Use of the International Phonetic Alphabet in the Choral Rehearsal,” in *The Use of the International Phonetic Alphabet in the Choral Rehearsal*, ed. Duane R. Karna (Lanham, Md: Scarecrow Press, 2010), 1–9.

This document is divided into seven chapters. Chapter II provides the background and history of the Korean writing system. Chapters III and IV discuss the shapes and sounds of Korean letters, including vowels and consonants using illustrations, diagrams, and tables to facilitate understanding. As Korean letters are written in syllabic blocks, syllabification will be discussed in chapter V, accompanied with the pronunciation rules of consonants in final positions of syllables. Also, the noticeable pronunciation changes caused by final consonants are also listed. Romanization and its limits will be discussed in chapter VI by comparing the current Korean folksong arrangements publications. For unifying the Romanization of the Korean language, an official Romanization system will be introduced. Thereafter, selected Korean folksong arrangements are suggested for an accurate Romanization of the Korean language. A word-for-word pronunciation guide, complete with the IPA in conjunction with the *Hangeul* writing system, translations, and annotations will be made to hopefully provide a more scholarly edition for publishing Korean choral music.

## CHAPTER II

### THE KOREAN WRITING SYSTEM

#### Background and History

Geographically, Korea, China, and Japan are located near one another in the Far East. Despite the fact that these countries are related culturally, historically, and politically, the languages show distinctly different characteristics. While the Chinese language belongs to the Sino-Tibetan language family, which includes Chinese and the Tibeto-Burman languages, Korean and Japanese are classified in the Altaic language family along with Mongolic, Turkic, and Tungusic languages.<sup>7</sup> Additionally, Chinese is an isolating language, one where the words consist of one or more invariant monosyllabic roots. Conversely, Korean and Japanese are agglutinating languages with polysyllabic roots that take a fairly complex range of grammatical suffixes.<sup>8</sup> The sentence order of Chinese is subject-verb-object as in English, but the sentence order of Korean and Japanese is subject-object-verb. For these reasons, these three countries are using different types of writing systems: logographic<sup>9</sup> writing system for Chinese, syllabic<sup>10</sup>

---

<sup>7</sup> Young-ae Choi, *What Is the Chinese Language?* (Seoul, Korea: Tongnamu, 1998), 41.

<sup>8</sup> Geoffrey Sampson, *Writing Systems*, Second Edition (Sheffield, UK ; Bristol, CT : Equinox Publishing Ltd., 2015), 144.

<sup>9</sup> In logographic writing systems, each character represents meaning only, so the writing system itself does not show pronunciation. The ancient Sumerians and Egyptians also used this kind of system, but only Chinese keep this system at the present time.

<sup>10</sup> In syllabic writing systems, each symbol represents a syllable. In the case of Japanese, characters, which were developed from the Chinese characters, convey a particular sound consisting of one consonant and one vowel. Thus, there is no way to separate between consonant and vowel.

writing system for Japanese, and alphabetic<sup>11</sup> writing system for Korean. In the early stages of their history, however, they all used Chinese characters although all three languages were quite different.

Chinese script, as a logographic writing system, was not suitable to adapt for the purpose of transcribing non-Chinese languages. Because of this, Korean and Japanese people utilized the Chinese script in different ways than the Chinese. The Japanese made two syllabic writing systems borrowing from Chinese characters, *Hiragana* and *Katakana*. Koreans used both the traditional Chinese characters and several types of borrowed Chinese characters, such as *Idu* (이두), *Hyangchal* (향찰), and *Kugyeol* (구결) periodically before the new Korean writing system (*Hunminjeongeum*) was invented in 1443.<sup>12</sup>

*Hunminjeongeum* (훈민정음) is the original name of the Korean alphabet, and also the title of the guidebook to this alphabet which was promulgated in 1446.<sup>13</sup> There are two types of the book *Hunminjeongeum: Eonhaebon* (언해본), meaning a Korean translated book from the other languages, especially Chinese, and *Haeryebon* (해례본), referring to a book with explanations and examples of the theory. Perhaps, the *Hunminjeongeum Haeryebon* was written first in Chinese script and then the *Hunminjeongeum Eonhaebon* was written in the new script (the invented Korean alphabet) translated only the main part written by King Sejong (1397~1450).<sup>14</sup>

---

<sup>11</sup> Alphabetic writing systems have consonant and vowel symbols to represent the speech sounds either individually or in combinations.

<sup>12</sup> Pak, *Hangeul Museum*, 56–65.

<sup>13</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone* (Seoul: Treebook, 2008), 73.

<sup>14</sup> *Ibid.*, 50.

Illustration 2.1 *Hunminjeongeum Eonhaebon*<sup>15</sup>



Illustration 2.2 Korea's National Treasure No. 70, *Huminjeongeum Haeryebon*<sup>16</sup>



The *Haeryebon* contains the main part with the King's preface and introduction to the new letters with their examples and meanings, as well as detailed explanations about the main part described in six chapters followed by Inji Jeong's preface at the end. Jeong (정인지,

<sup>15</sup> "Hunminjeongeum Eonhaebon," accessed March 31, 2016, <http://blog.naver.com/protips/220118783404>.

<sup>16</sup> "Hunminjeongeum Haeryebon (National Treasure No. 70)," accessed March 31, 2016, <http://blog.naver.com/graphai/140205754682>.

1396~1478) was the chief scholar in the *Jiphyeoncheon* (집현전), which was the scholarly institutional library in the palace for training professional scholars and fostering academic research. While the *Eonhaebon*'s different versions had appeared in several books, the original book, the *Haeryebon*, was just revealed to the world in 1940. It was a significant discovery because it included the important principles for inventing the writing system.<sup>17</sup>

Although there have been several theories about the authorship of *Hunminjeongeum*, recent studies have approved that King Sejong, the fourth monarch of the Joseon Dynasty (1392~1897), personally invented it.<sup>18</sup> The earliest edition of *Hunminjeongeum Eonhaebon* was inserted in the beginning of *Weorinseokbo* (월인석보),<sup>19</sup> which was written in Korean alphabet, suggesting that the new writing system was created by Sejong.

---

<sup>17</sup> Ibid., 50.

<sup>18</sup> Ki-Moon Lee, "The Inventor of the Korean Alphabet," in *The Korean Alphabet: Its History and Structure*, ed. Young-Key Kim-Renaud (Honolulu: University of Hawai'i Press, 1997), 11–30.

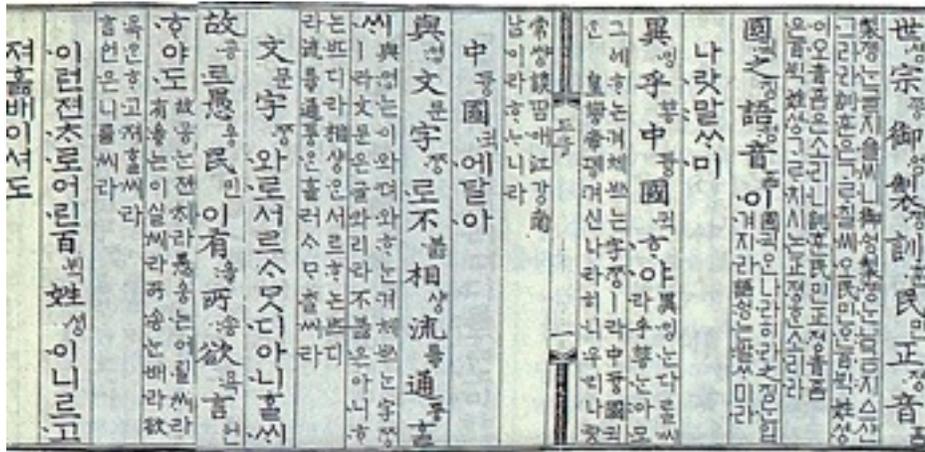
S. Robert Ramsey, "The Korean Alphabet," in *King Sejong the Great: The Light of Fifteenth Century Korea*, ed. Young-Key Kim-Renaud (Washington, D.C.: International Circle of Korean Linguistics, 1992), 43–50.

Ban and Huh, *Hangeul Invention Principles and Reuse of Old Characters*, 35–36.

Younguk Kim, *Hangeul: The Best Alphabet Invented by Sejong* (Seoul: Ludens, 2007), 126–48.

<sup>19</sup> This book describes Buddha's life story written in 1459, and it was used for *Hunminjeongeum* (Korean alphabet) textbook because Korean people were familiar to Buddhism as the previous dynasty (Koryeo)'s national religion.

Illustration 2.3 King Sejong’s Preface in the *Weorinseokbo* (1459)<sup>20</sup>



At the right side of Illustration 2.3, it starts with “Sejongeoje Hunminjeongeum” (세종어제훈민정음), which literally means “Sejong wrote this to teach people the correct sounds,” followed by the quote as below:

*Je* (제; 製) means to write something, therefore *Joje* (어제; 御製) indicates the King’s writing. *Hun* (훈; 訓) means to teach, *Min* (민; 民) means people, and *Eum* (음; 音) means sound, therefore *Hunminjeongeum* is the correct sounds for educating the people.<sup>21</sup>

The purpose of creating a new writing system is included in Sejong’s preface:

Since the phonological system of Korean is different from that of Chinese, the Chinese characters that describe both Chinese and Korean cannot be used in communication. Accordingly, there are many among the general public who cannot express themselves in Chinese characters even though they have something they want to say. Feeling sorry for this, I have newly created twenty-eight letters because I want our people to learn them easily and use them with convenience everyday.<sup>22</sup>

Sejong’s humanistic worldview in his preface was unimaginable in the medieval period, when only the ruling class of that society utilized written language. For this reason, UNESCO (United

<sup>20</sup> “2013-133 History of Writing System,” accessed March 31, 2016, <http://dmoo.tistory.com/entry/2013133-문자의-역사>.

<sup>21</sup> Chong-guk Pak, *A Comprehensive Study of Hunminjeongeum*, Kyeore Munhwa 17 (Seoul: Sejong Studies Institute, 2007), 196.

<sup>22</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 117–18.

Nations Educational, Scientific, and Cultural Organization) established the King Sejong Literacy Prize in 1989 for individuals and organizations that have contributed greatly to eradicating illiteracy.<sup>23</sup> Also, the manuscript of *Hunminjeongeum Haeryebon* was designated as National Treasure in UNESCO's Memory of the World Register in 1997.<sup>24</sup>

Illustration. 2.4 Statue of King Sejong with the *Hunminjeongeum* manuscript on his left hand<sup>25</sup>



China's dynastic rulership changed from the Yuan dynasty (1271~1368) to the Ming dynasty (1368~1644) causing the official pronunciation of Chinese to change from a southern style to a northern style.<sup>26</sup> At that time, the Joseon dynasty also needed to adjust to the new sound of Chinese for diplomatic communication. Since Chinese characters were based on the meaning of symbols, new phonetic symbols were necessary to indicate the new sound. As soon as *Hunminjeongeum* was invented, Sejong gave an order to his scholars, including Suk-ju Shin

---

<sup>23</sup> The Korea Foundation, *Hangeul : Korea's Unique Alphabet*, Korea Essentials ; No. 1 (Seoul, Korea: Seoul Selection, 2010), 72.

<sup>24</sup> "Interview of Seol-Ong Kim about Hunminjeongeum Haerye," *TBS TV Bookstore*, "Booksori" (YouTube), accessed March 31, 2016, <https://www.youtube.com/watch?v=KC3FSrUeAzw>.

<sup>25</sup> "King Sejong the Great," accessed March 31, 2016, <http://smilecap.tistory.com/570>.

<sup>26</sup> The Korea Foundation, *Hangeul*, 35.

(신숙주), Hang Choi (최항), and Paeng-nyeon Park (박팽년), to comprise a pronunciation dictionary of Chinese characters. The results of their efforts was the book, *Donggukjeongun* (동국정운), in 1448,<sup>27</sup> a publication that proved the new writing system was a proper tool for transcribing the Chinese pronunciation.

Illustration 2.5 Korea's National Treasure No. 142, *Donggukjeongun* (1448)<sup>28</sup>



Even after the new writing system for the Korean language was made, it was ignored by the noblemen (*Yangban*) for four hundred years or more during the Joseon Dynasty. The *Yangban* spent their entire lives studying Chinese characters to learn Confucianism and their professional studies. Presently, large-scale Chinese dictionaries contain approximately 50,000 different Chinese characters, but Chinese people themselves use only 1500 characters for basic literacy while Chinese scholars know about 6000 characters.<sup>29</sup> The large number of characters makes the Chinese writing system extremely complex and difficult. For this reason, the *Yangban* believed writing systems should not be easy to learn, and they designated Chinese writing as “true writing” (*Jinseo*; 진서), and Korean writing was considered “vulgar writing” (*Eonmun*;

<sup>27</sup> Ibid., 47.

<sup>28</sup> “Donggukjeongun,” accessed March 31, 2016, <http://blog.naver.com/nixodus/220268040566>.

<sup>29</sup> Henry Rogers, *Writing Systems : A Linguistic Approach* (Malden, MA: Blackwell Publishing, 2005), 44.

언문). The *Yangban* also gave many derogatory names to the new Korean writing system (*Hunminjeongeum*) such as “woman’s writing” (*Amkeul*; 암글), “children’s writing” (*Ahraetgeul*; 아랫글), and even “out-writing” (*Dwitgeul*; 뒤틀글), meaning “toilet writing.”<sup>30</sup> As a male-dominated society, the male elite group considered the easy to learn writing system was not for them, but for women, children, and the lower class.

After the Korean writing system had been treated as a substandard writing system for more than four centuries in the Joseon dynasty, it was finally utilized as an official script by the modernization *Gabo Reform*<sup>31</sup> of 1894 during the reign of the second to the last King Gojong. In 1897, the Joseon Dynasty was officially renamed the *Daehan Empire* (대한제국, 1897-1910). “Daehan” literally means “Great Korea.” This new empire proclaimed the invented Korean writing system the national script (국문).<sup>32</sup> Between 1910 and 1913, Si-gyeong Ju (주시경, 1876-1914), the founder of the Korean Language Society, coined the current term for the writing system, *Hangeul* (한글), meaning “Han’s script,” or, “script of the Korean Empire.”<sup>33</sup> The word, “Han” also refers to ‘great’ or ‘the only,’ so that another translation might be the “great script” or “the only script.”<sup>34</sup> Since 1913, the name *Hangeul* has been widely used.

---

<sup>30</sup> The Korea Foundation, *Hangeul*, 59.

<sup>31</sup> The Gabo Reforms (갑오개혁) refer to the three stages of sweeping changes by the progressive council members suggested to the Joseon government beginning in 1894 and ending in 1896. The name Gabo comes from the name of the year 1894 in the traditional sexagenary cycle (육십갑자).

<sup>32</sup> Kyoungbong Choi, *The Birth of Our Language: Fifty Years History of Making the First Korean Dictionary* (Seoul: Cum libro, 2005), 16.

<sup>33</sup> Choi, Si, and Pak, *Everything You Should Know About Hangeul*, 244.

<sup>34</sup> *Ibid.*, 245.

## The Principles

*Hangeul* is distinguished from other writing systems in that the principles of both its creation and its intended usage were systematically established from the outset.<sup>35</sup> Changseok Kang listed in his article, “Making Principles of *Hangeul* and its Graphic Shapes,” the principles for making graphemes (the smallest meaningful contrastive units in a writing system) in the *Hunminjeongeum*: a syllable (or a sound) was analyzed into three parts: initial sound (onset), medial sound (rhyme), and final sound (coda); two classes of graphemes were prepared for the onset and rhyme respectively; for the coda, the graphemes of the onset, rather than new graphemes, were used together; for the onset and rhyme, a few basic graphemes were invented first, and it was through some modifications of them that other graphemes were derived; the basic graphemes for consonants (onset) were modeled after articulatory organs (lips, throat, and the position of the tongue). The ones for rhyme were made by imitating the concepts of heaven, earth, and man; in the case of the onset, each weakest sound in every place of articulation was represented by a basic grapheme, and a stroke was added to basic graphemes in order to make the remaining ones; in a practical usage, onset, rhyme, and coda were joined together and written as a syllable unit; the calligraphic (artistic handwriting with a brush) principles such as economy of strokes and avoidance of graphic similarity were also reflected in the determination of the graphic shapes.<sup>36</sup>

---

<sup>35</sup> The Korea Foundation, *Hangeul*, 11.

<sup>36</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written Plainly So As To Be Understood By Everyone*, 79–83.

## Special Characteristics

While most other writing systems gradually evolved from ancient scripts, *Hangeul* was creatively invented in the 15<sup>th</sup> century. It was not merely imitating pre-existing writing systems, but based on Sejong's exhaustive and advanced study of astronomy, music, philosophy, and linguistics.<sup>37</sup> He worked on mastering these areas in order to make an ideal tool to write down all speech sounds. His attitude on studying came from the Neo-Confucian philosophy of "gaining knowledge by the study of things (격물치지)."<sup>38</sup> This evidence can be found in the beginning of the chapter on "Explanations of the Designs of the Letters," in the *Hunminjeongeum Haerye*.

The ways of the universe are solely governed by the principle of *Yin* and *Yang* and the interaction of the Five Elements. (Mediated ellipsis) How could all living things between heaven and earth ever depart from the principles of *Yin* and *Yang*? Therefore, all human speech sounds are governed by the principles of *Yin* and *Yang*. However, people have not been able to understand this fact. Now the making of the Correct Sounds (*Jeongeum*) has not been achieved by intellectual efforts and a laborious search from the very beginning, but it is simply the result of the mastery of the principle of sounds based on the speech sounds.<sup>39</sup>

As the only purposefully-built writing system, *Hangeul* has several unique characteristics.

First, *Hangeul* is a featural alphabet, meaning the shapes of the alphabet letters represent their phonetic features such as voicing, aspiration, and articulation.<sup>40</sup> British linguist, Geoffrey Sampson first named *Hangeul* as a featural system, a more advanced system than the phonetic alphabets.<sup>41</sup> *Hangeul* letters have an internal structure interrelated with the articulatory features

---

<sup>37</sup> Ban and Huh, *Hangeul Invention Principles and Reuse of Old Characters*, 13.  
"Sejong Changed the World with Hangeul," accessed April 1, 2016,  
<https://www.youtube.com/watch?v=L665jek6KEk>.

<sup>38</sup> Ban and Huh, *Hangeul Invention Principles and Reuse of Old Characters*, 12.

<sup>39</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 122.

<sup>40</sup> The Korea Foundation, *Hangeul*, 18.

<sup>41</sup> Sampson, *Writing Systems*, 143–66.

and composition of the phonemes.<sup>42</sup> For instance, the *Hangeul* letters, ‘ㄷ’ and ‘ㅌ’ both belong to the alveolar consonant category, which is pronounced with the tip of the tongue on or near this ridge, as their appearances are similar except the middle line. The line distinguishes that the former consonant is plain and the latter is aspirated. Roman letters, however, do not convey any connections between corresponding consonants like the Korean consonants, ‘d’ and ‘t’.

The special characteristics of *Hangeul* is [sic] that it is based on phonetic features rather than on segments as unanalyzed wholes. In Korean, as in any language, a largish number of segmental phonemes are built up by combining a small number of features in different ways, so a featural script should have the virtue of fewness of graphic units to be learned.<sup>43</sup>

Second, *Hangeul* is linguistically scientific. There are two distinct forms for consonants and vowels. The shapes of the five basic consonants (ㄱ, ㅋ, ㆁ, ㆁ, ㆁ) are imitative of the configuration of the speech organs (tongue, lips, teeth, and throat), and the three basic vowels are taken from the images of the heaven (dot), earth (horizontal line), and human (vertical line). Thus, the Korean alphabet draws from creature and nature. Edwin O. Reischauer (1910-1990), who was a professor at Harvard University and co-maker of the McCune-Reischauer Romanization system for Korean in 1939, called the Korean alphabet “perhaps the most scientific system of writing in general use in any language.”<sup>44</sup>

Third, *Hangeul* has a systematic structure. All other consonant symbols are derived from the five basic letters by adding strokes; (ㄱ → ㅋ) and/or doubling the basic consonant symbols; (ㄱ → ㆁ). Similarly, the rest of the vowel symbols all came from the three rudimentary vowels by adding a dot; (ㅡ → ㅜ) and/or combining vowels; (ㅜ + ㅣ = ㅟ). Furthermore, the phonemic

---

<sup>42</sup> Ibid., 146.

<sup>43</sup> Ibid., 162.

<sup>44</sup> Ibid., 143.

units join together to form a syllable. Each syllabic block consists of an initial, a medial, and/or a final sound to allow Korean readers quicker and easier speed of reading. The reading speed of syllabic blocks (e.g. 한글) is two-and-a-half times faster than the reading speed of simply listed fragments (e.g. ㅎ ㅣ ㄴ ㄱ ㅡ ㅈ).<sup>45</sup> For this reason, Sampson determined that the transparency of feature marking in *Hangeul* does benefit the Korean reader.<sup>46</sup>

Fourth, *Hangeul* is versatile. The small number of graphic letters can produce about 11,172 distinct syllables (19 onset consonants x 21 vowels = 399 syllables, and 399 x 27 final consonants = 10,733 syllables).<sup>47</sup> This number of syllables makes it possible to transcribe any human languages and even nature sounds, as Inji Jeong described in his preface at the end of the *Hunminjeongeum Haerye*.

As for the phonology of the characters, clearness and dullness can easily be distinguished, and as for music and song, the sounds are in accord with the notes. For the use of the sounds, there is nothing unprovided for, and for expressions they serve all purposes. Even the sounds of the winds, the crowing of a crane, the cackle of a rooster and the barking of a dog – everything can be written well with these letters.<sup>48</sup>

Fifth, *Hangeul* is philosophical. It was invented based on the Neo-Confucian philosophy of *yin* and *yang* and the Five-Elements. *Yin* (–; negative) is associated with femaleness, darkness, death, intuition, cold, and passivity and *yang* (+; positive) is associated with maleness, light, life, logic, warmth, and activity.<sup>49</sup> The harmony of these two contrastive energies represents the balance of everything in the world. The Five Elements include the five primary substances: fire, wood, water, metal, and earth. The inventor King Sejong thought that sounds of human beings

---

<sup>45</sup> *Hangeul Story That We Don't Know Yet*, accessed March 23, 2016, <https://www.youtube.com/watch?v=ZxuG-l3yPhQ>.

<sup>46</sup> Sampson, *Writing Systems*, 166.

<sup>47</sup> The Korea Foundation, *Hangeul*, 26.

<sup>48</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 156–57.

<sup>49</sup> Xidnaf, *World's Easiest Writing System: Origin of Hangeul*, accessed April 1, 2016, <https://www.youtube.com/watch?v=K53oCDZPPiw>.

should be included within the boundaries of this philosophy. According to the five linguistic divisions of consonants (velar, lingual, dental, labial, and glottal) match to the pentatonic scale and the five planets in the universe (Mercury, Venus, Mars, Jupiter, and Saturn). The table of the relationship between the five elements and the other phenomena is as below:

Table 2.1 Relationship Between the Five Elements and the Other Phenomena<sup>50</sup>

|                    |        |         |        |               |         |
|--------------------|--------|---------|--------|---------------|---------|
| Five Elements      | Wood   | Fire    | Metal  | Earth         | Water   |
| Five Speech Sounds | Velar  | Lingual | Dental | Labial        | Glottal |
| Five Notes         | Mi     | Sol     | Re     | Do            | La      |
| Five Seasons       | Spring | Summer  | Fall   | Indian Summer | Winter  |
| Five Directions    | East   | South   | West   | Center        | North   |

The three basic vowel symbols were connected from the nature trinity (Heaven, Earth, and Human) in the Neo-Confucian philosophy to the dot, the horizontal line, and the vertical line.<sup>51</sup>

Table 2.2 The Three Basic Vowel Symbols

| Basic Vowel Symbol | Tendency           | Concept |
|--------------------|--------------------|---------|
| ·                  | Positive (+) vowel | Heaven  |
| —                  | Negative (-) vowel | Earth   |
| l                  | Neutral vowel      | Human   |

Also, the cosmic dual forces (*yin* and *yang*) were applied to further vowel symbols by adding the dot above the horizontal line or outside and to the right of the vertical line became *yang*. In contrast, locating the dot below the horizontal line or inside and to the left of the vertical line became *yin*, and was also applied to combination vowels reflecting *yin* and *yang* vowel harmony, which is a phenomena that happens in agglutinative languages. Agglutinative languages such as Hungarian, Turkish, Korean, and Swahili tend to express concepts in complex words consisting

<sup>50</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 124.

<sup>51</sup> Ramsey, “The Korean Alphabet,” 48.

of many elements, rather than by inflection or by using isolated elements. All Korean vowels fall into one of two classes except the neutral vowel ( ㅣ ), such that all the vowels of a given word are drawn from one class or the other but not from both.<sup>52</sup>

Table 2.3 *Ying* and *Yang* on the Korean Vowels

|          |   |   |
|----------|---|---|
| Yang (+) | ㅏ | ㅑ |
| Ying (-) | ㅓ | ㅕ |

These characteristics make *Hangeul* the world's easiest writing system.<sup>53</sup> Many cases proved that people who are not familiar with *Hangeul* characters could pronounce them well when shown the relationship between letters of the Korean alphabet and the speech organs used to articulate them, as well as the method of combining letters into syllabic blocks. As *Hangeul* was created with the sole purpose of enabling people to read with the proper pronunciation, its invention principles will be applied to discuss the Korean pronunciation in the following chapters.

---

<sup>52</sup> Sampson, *Writing Systems*, 150.

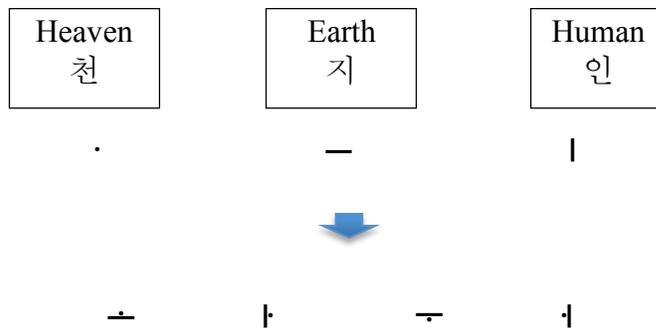
<sup>53</sup> Xidnaf, *World's Easiest Writing System*.

## CHAPTER III

### SHAPES AND SOUNDS OF KOREAN VOWELS

#### Shapes of Korean Vowels

*Hunminjeongeum* shows how the shapes of vowels are created. The three basic vowel shapes were created in the image of nature: the roundness of heaven, the flatness of earth, and the upright posture of man. Combining two elements among these vowel shapes produces the next four vowels as follows:



These four vowel shapes are made by putting the dot either above or below the horizontal line or either side of the vertical line. The next four vowels are similar but include two dots as shown below:

ㅛ      ㅜ      ㅠ      ㅝ

The *Hunminjeongeum* manual explains that these eleven vowels ( · , — , | , ㄷ , ㅌ , ㅍ , ㅊ , ㅛ , ㅜ , ㅠ , ㅝ ) are fundamental phonemes. The next vowels are formed by combining these fundamental phonemes using the Twin Modes, *ying* and *yang*, reflecting the rule of vowel harmony. In this case, vowels can be combined when both vowels have the same characteristics:

positive vowels with positive vowels, or negative vowels with negative vowels. There are four two-letter combined vowels.

ㅏ + ㅣ = ㅑ                      ㅓ + ㅓ = ㅕ                      ㅗ + ㅣ = ㅛ                      ㅜ + ㅛ = ㅠ

In addition, the ten one-letter vowels can combine with ‘ㅣ’. The ten one-letter vowels refer to the all fundamental vowel phonemes except ‘ㅣ’.

|           |           |           |
|-----------|-----------|-----------|
| ㅏ + ㅣ = ㅑ | ㅓ + ㅣ = ㅕ | ㅗ + ㅣ = ㅛ |
| ㅓ + ㅣ = ㅕ | ㅓ + ㅣ = ㅕ | ㅓ + ㅣ = ㅕ |
| ㅗ + ㅣ = ㅛ | ㅗ + ㅣ = ㅛ | ㅗ + ㅣ = ㅛ |
| ㅜ + ㅣ = ㅠ | ㅜ + ㅣ = ㅠ | ㅜ + ㅣ = ㅠ |

Likewise, the four two-letter vowels can also combine with ‘ㅣ’.

ㅑ + ㅣ = ㅓ                      ㅕ + ㅣ = ㅗ                      ㅛ + ㅣ = ㅓ                      ㅠ + ㅣ = ㅕ

As a result, there are twenty-nine vowels including eleven one-letter vowels, fourteen two-letter vowels, and four three-letter vowels. Among them, four vowels (ㅓ, ㅕ, ㅓ, ㅕ) were not used in Korean, but they were invented to transcribe the sound of Chinese as a phonetic alphabet.<sup>54</sup> Furthermore, some vowels are not used anymore in the modern Korean language. The number of modern Korean vowels is twenty-one: ten from the fundamental vowels and eleven from the combined vowels.

ㅏ    ㅣ    ㅓ    ㅓ    ㅗ    ㅜ    ㅛ    ㅜ    ㅛ    ㅠ

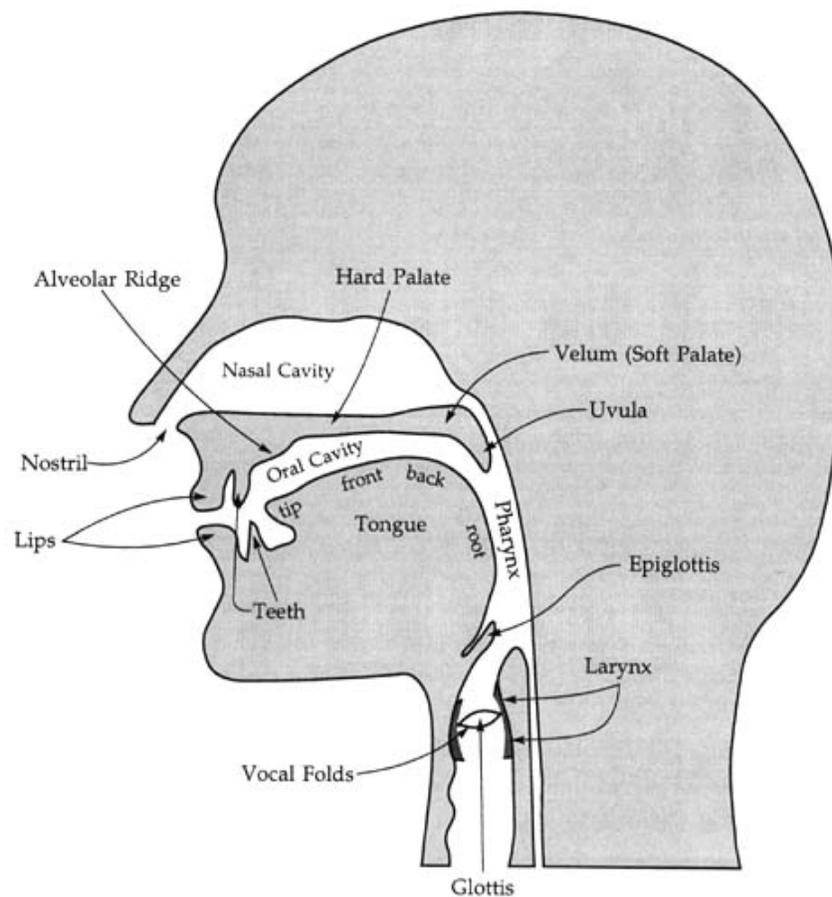
ㅑ    ㅕ    ㅗ    ㅓ    ㅕ    ㅓ    ㅕ    ㅓ    ㅕ    ㅓ    ㅕ

<sup>54</sup> Pak, *A Comprehensive Study of Hunminjeongum*, 42.

## Vowel Mechanism

Before discussing the specific sounds of Korean vowels, it can be helpful to know the mechanics of vowels. The Merriam-Webster English dictionary defines a vowel as a classification of speech sounds of which in the articulation, the oral part of the breath channel is not blocked or constricted to cause audible friction.<sup>55</sup> In other words, vowels are speech sounds that involve pulmonic (related to the lung) air and a free air passage through the vocal tract. The figure shows the left side view of the vocal tract.

Figure 3.1 Vocal Tract Labels<sup>56</sup>



<sup>55</sup> “Vowel | Definition of Vowel by Merriam-Webster,” accessed August 27, 2015, <http://www.merriam-webster.com/dictionary/vowel>.

<sup>56</sup> “Mod 3 Lesson 3.5.2 Consonants: Place of Articulation,” accessed September 25, 2015, [http://emedia.leeward.hawaii.edu/hurley/Ling102web/mod3\\_speaking/3mod3.5.2\\_place.htm](http://emedia.leeward.hawaii.edu/hurley/Ling102web/mod3_speaking/3mod3.5.2_place.htm).

## Sounds of Korean Vowels in the *Hunminjeongeum*

Different vowel sounds are mainly produced by the shape of the lips, the opening degree of the mouth, and the height and placement of the tongue. The 15<sup>th</sup> century manuscript, *Hunminjeongeum* also explains the vowel sounds in the same way. The description of the simple vowels found in the *Hunminjeongeum* is listed below:<sup>57</sup>

- is pronounced with the tongue constricted and the voice is deep.
- is pronounced with the tongue slightly constricted and the voice is neither deep nor shallow.
- । is pronounced with the tongue not constricted and the voice is shallow.
- ㅝ is like · but is pronounced with the lips rounded.
- ㅑ is like · but the mouth is spread open.
- ㅜ is like — but is pronounced with the lip rounded.
- ㅓ is like — but is pronounced with lips spread open.

Even though the round dot vowel ( · ) does not exist in modern Korean, it is necessary to show the description of the sound is important to show that it is the root of making the shapes of other vowels and a criterion that defines the sounds of other vowels. For this reason, *Hunminjeongeum* regards the round dot as the most important vowel of all Korean vowels. Jihyung Kim states that this vowel-making process phonetically reflects a distinctive feature as suggested in the following table:

---

<sup>57</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 128–30.

Table 3.1 Korean Vowel Chart Based on the *Hunminjeongeum*<sup>58</sup>

| Tongue<br>Mouth | Front | Central | Back | Place<br>Height |
|-----------------|-------|---------|------|-----------------|
| Close           | ㅣ     | ㅡ       | ㅗ    | High            |
| Half            |       | ㅡ       | ㅜ    | Half            |
| Open            |       | ㅝ       | ㅟ    | Low             |

The seven vowels in Table 3.1 were pronounced as monophthongs (pure vowel sounds), but the four remaining fundamental vowels were pronounced as diphthongs starting from the ‘ㅣ’ vowel.

The evidence can be found in the *Hunminjeongeum*.<sup>59</sup>

ㅑ is like ㅗ in form and sound value, but the pronunciation starts with ㅣ.

ㅓ is like ㅜ in form and sound value, but it also starts with ㅣ.

ㅕ is like ㅡ in form and sound value, but it also starts with ㅣ.

ㅛ is like ㅝ in form and sound value, but it also starts with ㅣ.

The formations of the vowel shapes illustrate how to pronounce the eighteen combined vowels.

For example, these eight two-letter combined vowels were pronounced as diphthongs.

ㅑㅓ [ㅑ ㅓ]    ㅑㅕ [ㅑ ㅕ]    ㅑㅗ [ㅑ ㅗ]    ㅑㅜ [ㅑ ㅜ]  
 ㅑㅝ [ㅑ ㅝ]    ㅑㅟ [ㅑ ㅟ]    ㅑㅛ [ㅑ ㅛ]    ㅑㅜㅟ [ㅑ ㅜㅟ]

In the same way, these four two-letter combined vowels with the two-dot fundamental vowels (ㅑ, ㅓ, ㅕ, ㅛ) were pronounced as triphthongs.

ㅑㅓㅑ [ㅑ ㅓ ㅑ]    ㅑㅓㅓ [ㅑ ㅓ ㅓ]    ㅑㅓㅕ [ㅑ ㅓ ㅕ]    ㅑㅓㅛ [ㅑ ㅓ ㅛ]

Finally, three or more combined vowels were pronounced as triphthongs or more.

ㅑㅓㅑㅓ [ㅑ ㅓ ㅑ ㅓ]    ㅑㅓㅑㅓㅑ [ㅑ ㅓ ㅑ ㅓ ㅑ]    ㅑㅓㅑㅓㅓ [ㅑ ㅓ ㅑ ㅓ ㅓ]    ㅑㅓㅑㅓㅕ [ㅑ ㅓ ㅑ ㅓ ㅕ]    ㅑㅓㅑㅓㅛ [ㅑ ㅓ ㅑ ㅓ ㅛ]    ㅑㅓㅑㅓㅜㅟ [ㅑ ㅓ ㅑ ㅓ ㅜㅟ]

<sup>58</sup> Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of *Hunminjeongeum*,” 234–35.

<sup>59</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 130–31.

## Sounds of Korean Vowels Today

The current sounds of Korean vowels are slightly different from those in the 15<sup>th</sup> century. The National Institute of the Korean Language, a research organization of the Korean language, reformed a rule of Korean orthography and established a regulation of Standard Korean Pronunciation in 1988.<sup>60</sup> The second part from the regulation of Standard Korean Pronunciation specifies how to pronounce the twenty-one modern Korean vowels along with supplemental explanations.

### Simple Vowels

The National Institute of the Korean Language set the number of simple vowels as ten (ㅏ, ㅑ, ㅓ, ㅕ, ㅗ, ㅛ, ㅜ, ㅠ, ㅡ, ㅣ). In modern Korean, the dot inside of each vowel extends to a short line (i.e. ㅏ → ㅏ), and the four vowels (ㅓ, ㅕ, ㅜ, and ㅠ) are monothongs pronounced as [e], [ɛ], [y], and [ø], not diphthongs as in the *Hunminjeongeum*: [ʌi], [ai], [ui], and [oi].

Concerning the changing of the sounds of ㅓ [e] and ㅕ [ɛ] from the past, Jihyung Kim offers a logical argument that a connection still remains between the modern pronunciation and the shapes of the two vowels: ㅓ [e] and ㅕ [ɛ]. According to him, the current sounds of ㅓ [e] and ㅕ [ɛ] are from the combination of phonetic features of two specific vowels. The sound of ㅓ [e] is the result of both the degree of mouth opening and the tongue height of ㅏ [ʌ] and front tongue position of ㅣ [i]. Likewise, the pronunciation of ㅕ [ɛ] is the product of mixing the degree of mouth opening and the tongue height of ㅗ [a] and the forwardness of ㅣ [i].<sup>61</sup> The same method can be applied to the following two simple vowels: ㅜ [y] and ㅠ [ø]. The sound of ㅜ [y]

---

<sup>60</sup> “국립국어원 20년사 - 한글 맞춤법과 표준어 규정 정비 | 국립국어원,” accessed March 24, 2017, [http://www.korean.go.kr/niklintro2/20years05\\_01\\_01.jsp](http://www.korean.go.kr/niklintro2/20years05_01_01.jsp).

<sup>61</sup> Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of Hunminjeongeum,” 245–46.

is the result of the roundness of ㅓ [u] and the front tongue position of ㅣ [i]. The sound of ㅛ [ø] is the combination of the roundness of ㅜ [o] and the front tongue position of ㅣ [i].

As seen in Table 3.2, the National Institute of Korean Language displays the tongue placement of Korean simple vowels only from front to back, and excludes the central position.

Table 3.2 Korean Simple Vowel Chart without a Central Position<sup>62</sup>

|        | Front     |         | Back      |         |
|--------|-----------|---------|-----------|---------|
|        | Unrounded | Rounded | Unrounded | Rounded |
| High   | ㅣ [i]     | ㅟ [y]   | ㅡ [ɨ]     | ㅜ [u]   |
| Medium | ㅓ [e]     | ㅛ [ø]   | ㅑ [ʌ]     | ㅝ [o]   |
| Low    | ㅘ [ɛ]     |         | ㅚ [a]     |         |

Jinho Kim explains why the vowel chart does not include the central vowels in his book, *An Introduction to Korean Linguistics as a Foreign Language*.<sup>63</sup> According to Kim, the omission of the central position is phonologically acceptable in Korean linguistics, though the tongue positions were distinguished in three places phonetically. Kwangkeun Oh also says in his article, “The Present Conditions and Problems of the Instruction for Pronunciation in the Korean Textbooks: Focusing on Monophthong,” that this vowel chart is only a tool to show the systematic differences between the vowels rather than showing the exact articulatory positions.<sup>64</sup> Ultimately, both Kim and Oh identified that the three vowels (ㅡ [ɨ], ㅑ [ʌ], and ㅚ [a]) are considered as the central vowels.

<sup>62</sup>“제 2 부 표준 발음법 | 국립국어원,” accessed August 22, 2015, [http://www.korean.go.kr/front/page/pageView.do?page\\_id=P000098&mn\\_id=95](http://www.korean.go.kr/front/page/pageView.do?page_id=P000098&mn_id=95).

<sup>63</sup> Jin-ho Kim, *An Introduction to Korean Linguistics as a Foreign Language* (Seoul: Pakijeong, 2008), 47.

<sup>64</sup> Kwang-Keun Oh, “The Present Conditions and Problems of the Instruction for Pronunciation in the Korean Textbooks: Focusing on Monophthong,” *Journal of Bangyo Language and Literature* 26 (2009): 67.

Ji-hyung Kim shows a vowel chart with a central position in his article, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention of Principle of *Hunminjeongeum*.”<sup>65</sup> His vowel chart demonstrates the central vowels, and the height of the tongue is more specified into half-high and half-low as seen in the following table:

Table 3.3 Korean Simple Vowel Chart with a Central Position<sup>66</sup>

|                            | Front     |         | Central   |         | Back      |         |
|----------------------------|-----------|---------|-----------|---------|-----------|---------|
|                            | Unrounded | Rounded | Unrounded | Rounded | Unrounded | Rounded |
| High (closed)              | ㅣ [i]     | ㅍㅣ [y]  | ㅡ [ɨ]     |         |           | ㅍㅍ [u]  |
| Half-high<br>(Half-closed) | ㅍㅣ [e]    | ㅍㅍ [ø]  |           |         |           | ㅍㅍ [o]  |
| Half-low<br>(Half-open)    | ㅍㅣ [ɛ]    |         | ㅍ [ʌ]     |         |           |         |
| Low (Open)                 |           |         | ㅍ [a]     |         |           |         |

With the result of Table 3.3, the ten Korean simple vowels can correspond to the specific IPA symbols on the IPA vowel quadrangle (Figure 3.3), the nomenclature of which was made by a British phonetician, Daniel Jones (1881-1967), considered the positions of the tongue and shapes of the lips as seen in Figure 3.2.

<sup>65</sup> Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of *Hunminjeongeum*,” 241–44.

<sup>66</sup> Kim, *An Introduction to Korean Linguistics as a Foreign Language*, 49.

Figure 3.2 Daniel Jones's Cardinal Vowels in the Vowel Quadrangle<sup>67</sup>

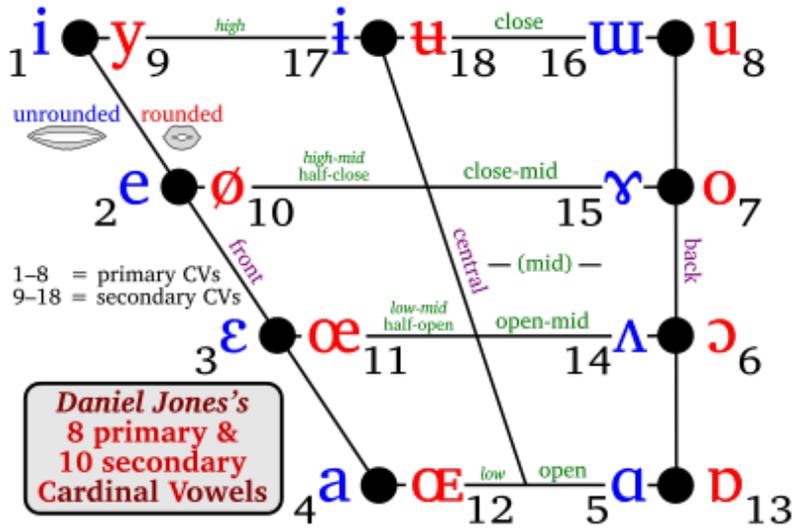
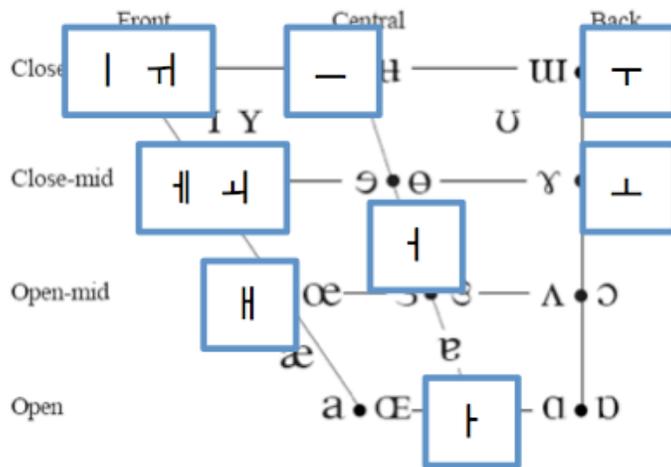


Figure 3.3 Korean Simple Vowels on Figure 3.2<sup>68</sup>



Jones employed a dual-parameter system (the tongue height on the vertical axis, and the portion of the tongue raised on the horizontal axis) of visualizing how vowels are articulated. His quadrilateral diagram displays a set of eight primary cardinal vowels [i, e, ε, a, α, ɔ, o, u] and an

<sup>67</sup> “Cardinal Vowels,” *Wikipedia, the Free Encyclopedia*, July 13, 2016, [https://en.wikipedia.org/w/index.php?title=Cardinal\\_vowels&oldid=729567865](https://en.wikipedia.org/w/index.php?title=Cardinal_vowels&oldid=729567865).

<sup>68</sup> Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of Hunminjeongeum,” 241.

additional set of ten secondary cardinal vowels [y, ø, œ, œ, ɒ, ʌ, ɤ, ɯ, i, ɯ]. The cardinal vowel is the vowel sound produced when the tongue is an extreme position, either front or back, and high or low. The shape of the lips is also applied where the IPA symbols appear in pairs; the symbols on the right side represent a rounded vowel.

As mentioned earlier, each *Hangeul* grapheme reflects its phonetic and phonological features. In the linguistic area, if the feature is part of the classification of the sound, the segment will be specified by a value of ‘plus (+)’ or if it is not for each of the features, ‘minus (-)’ will be marked.<sup>69</sup> Vocalic features can be enumerated in [high], [low], [back], [front], [round], [tense] and [advanced tongue root].<sup>70</sup> Among these features, Korean vowels need [high] and [low] in terms of tongue height, [front] and [back] in order to indicate tongue position, and [round] for mouth shape. This method was first invented by Jakobson Halle in his book, *Fundamentals of Language* (1956), and the classification of distinctive features was replenished by Chomsky Halle in his publication, *The Sound Patterns of English* (1968).<sup>71</sup>

Table 3.4 The Value of Features on the Korean Simple Vowels<sup>72</sup>

|       | ㅣ [i] | ㅑ [e] | ㅓ [ɛ] | ㅡ [ɨ] | ㅗ [ʌ] | ㅛ [a] | ㅜ [u] | ㅝ [o] | ㅠ [y] | ㅟ [ø] |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| High  | +     | -     | -     | +     | -     | -     | +     | -     | +     | -     |
| Low   | -     | -     | +     | -     | +     | +     | -     | -     | -     | -     |
| Front | +     | +     | +     | -     | -     | -     | -     | -     | +     | +     |
| Back  | -     | -     | -     | -     | +     | -     | +     | +     | -     | -     |
| Round | -     | -     | -     | -     | -     | -     | +     | +     | +     | +     |

According to Table 3.4, the closest distance between the tongue and the palate is [+high], the farthest distance is [+low], and the medium is distinguished as [-high, -low]. Therefore, the

<sup>69</sup> Mike Davenport and S. J. Hannahs, *Introducing Phonetics and Phonology*, Second edition (London: Hodder Arnold, 2005), 92.

<sup>70</sup> *Ibid.*, 103.

<sup>71</sup> Ku, *Understanding of Korean Phonology*, 186–89.

<sup>72</sup> *Ibid.*, 196.

closed vowels are / ㅈ [i], ㅊ [y], ㅊ [i], ㅊ [u]/ with [+high], the mid-open or mid-closed vowels are / ㅅ [e], ㅆ [ø], ㅆ [o], ㅅ [ʌ]/ with [-high, -low], and the open vowels are / ㅅ [ε], ㅅ [a]/ with [+low]. The sound, which is produced with a front tongue position, is [+front], and the sound that is produced with a back tongue position is [+back]. Thus, the front vowels are / ㅈ [i], ㅅ [e], ㅅ [ε]/ with [+front], the central vowels are / ㅊ [i], ㅅ [a]/ with [-front, -back], and the back vowels are / ㅊ [u], ㅆ [o], ㅅ [ʌ]/ with [+back].<sup>73</sup> However, the feature of the vowel / ㅅ [ʌ]/ with [+back] does not match to Table 3.3 and Figure 3.3, where the vowel / ㅅ [ʌ]/ is placed in the central position. In Figure 3.3, this vowel matches to [ə], but features of [ə] are [-high], [-low], [-front], [-back], and [-round].<sup>74</sup> This confusion was occurred because the actual standard pronunciation of / ㅅ [ʌ]/ is produced in two ways.<sup>75</sup> Further discussions about this issue will be discussed in the following summary.

### Summary of Simple Vowels

Most Korean diction materials explain the pronunciation using the equivalent English words, but this method often misleads the actual Korean pronunciation. Thus, details of each vowel will be explained based on the tongue position, the shape of the lips, and the degree of mouth openness. Also, the most reasonable and closest IPA symbol correlation will be suggested based on the features of Korean letters. The demonstrations of all vowels are provided in the supplemental audio files. Due to the principles of Korean, vowel symbols cannot stand alone, so a space filler, “ㅇ” accompanies each vowel symbol.

---

<sup>73</sup> This distinction is also shown in Miho Choo and William D. O’Grady, *The Sounds of Korean : A Pronunciation Guide* (Honolulu : University of Hawai’i Press, 2003), 19.

<sup>74</sup> Davenport and Hannahs, *Introducing Phonetics and Phonology*, 107.

<sup>75</sup> Oh, “The Present Conditions and Problems of the Instruction for Pronunciation in the Korean Textbooks: Focusing on Monophthong,” 71–72.

## 이 [ i ]

IPA: [i]

Tongue position: high, front

Lip shape: unrounded, horizontal

Mouth opening: narrowest opening

Singing: Touch the tip of your tongue to the back of your lower teeth and open your mouth a little more than speaking, but keep the [i] sound.

Audio example number: 1

## 에 [ e ]

IPA: [e]

Tongue position: mid-high, front

Lip shape: unrounded, horizontal

Mouth opening: close-mid

Singing: Lower your jaw and open your mouth a little more than [i].

Audio example number: 2

## 애 [ ɛ ]

IPA: [ɛ]

Tongue position: mid-low, front

Lip shape: unrounded, horizontal

Mouth opening: open-mid

Singing: Place your tongue slightly lower and drop your jaw slightly more than for the [e] sound.

Audio example number: 3

The contrast between “ㅣ [e]” and “ㅐ [ɛ]” is ambiguous among contemporary Korean speech, and most speakers pronounce the two sounds alike, more or less as “ㅣ [e].” Nonetheless, the distinction is still maintained in careful speech, these vowels are distinguished with the amount of mouth opening and tongue height. Some materials describe the sound of the vowels as

[ɛ] and [æ] instead of [e] and [ɛ]. Koreans tend to pronounce both vowels in a more closed way, so [e] and [ɛ] are more appropriate than [ɛ] and [æ] which are all open vowels.<sup>76</sup>

## 아 [ㅏ]

IPA: [a]

Tongue position: low, central

Lip shape: unrounded, untensed at corners

Mouth opening: open vertically

Singing: Drop your jaw comfortably and your mouth shape should be tall and narrow like an egg shape.

Audio example number: 4

The IPA [a] is actually “open front unrounded vowel” in the vowel quadrangle. Thus, IPA [ä], “open central unrounded vowel,” would be more precise according to the IPA vowel diagram with the added material (Figure 3.4). However, the International Phonetic Association officially has no dedicated symbol for this sound between [a] and [ɑ], it is normally written as [a] for convenience.<sup>77</sup> The vowel triangle (Figure 3.5) shows that [a] is in the center of the diagram.

---

<sup>76</sup> Ibid., 63–66.

<sup>77</sup> William J. Barry and Jürgen Trouvain, “Do We Need a Symbol for a Central Open Vowel?” *Journal of the International Phonetic Association* 38, no. 03 (2008): 349–457.

Figure 3.4 The IPA Vowel Quadrangle with the Additional Materials<sup>78</sup>

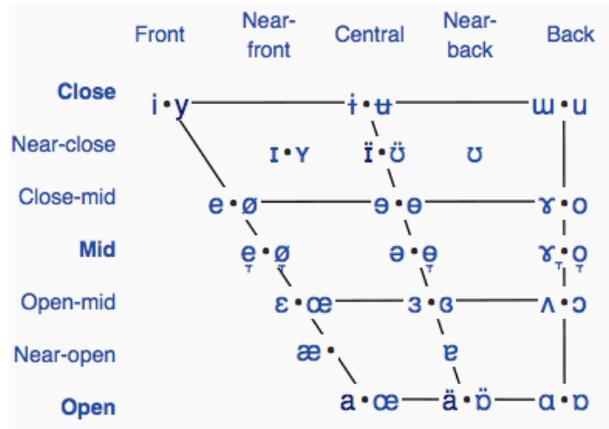
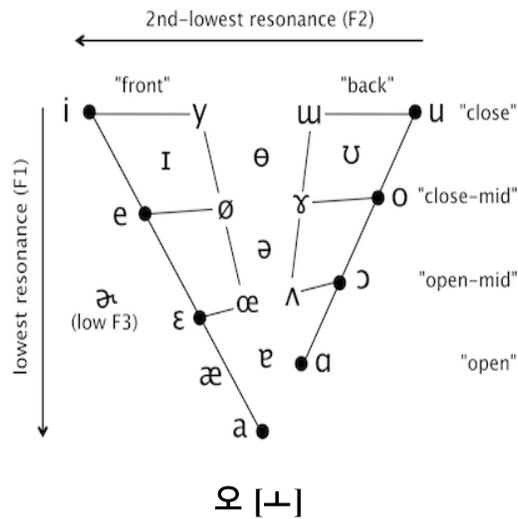


Figure 3.5 Vowel Triangle<sup>79</sup>



IPA: [ɔ]

Tongue position: mid-high, back

Lip shape: rounded

Mouth opening: close-mid

Singing: Stay on the tongue height and jaw position of [e] and push your lips forward and make a circle.

Audio example number: 5

<sup>78</sup> “Template:IPA Chart/table Vowels - Wikipedia, the Free Encyclopedia,” accessed August 15, 2015, [https://en.wikipedia.org/wiki/Template:IPA\\_chart/table\\_vowels](https://en.wikipedia.org/wiki/Template:IPA_chart/table_vowels).

<sup>79</sup> Geoff Lindsey, “The Vowel Space,” *English Speech Services*, accessed August 15, 2015, <http://englishspeechservices.com/blog/the-vowel-space/>.

## 우 [ɯ]

IPA: [u]

Tongue position: high, back

Lip shape: rounded, smallest circular shape

Mouth opening: small vertically

Singing: From [i] position, round your lips firmly and push your voice forward. Your tongue should be in the back.

Audio example number: 6

## 위 [ɥ]

IPA: [y]

Tongue position: high, front

Lip shape: rounded

Mouth opening: almost close

Singing: Make your lip shape as [u], and say [i] as German counterpart /ü/.

Audio example number: 7

## 외 [ɥ]

IPA: [ø]

Tongue position: mid-high, front

Lip shape: rounded

Mouth opening: close-mid

Singing: Make your lip shape as [o], and say [e] as German vowel /ö/.

Audio example number: 8

The regulation of the standard Korean pronunciation allows that the two vowels, ɯ [ɯ] and ɥ [ø] can be pronounced as [w]-glides because Korean people tend to pronounce them like [wi] and [we]. People easily change their vowel pronunciations for convenience, giving several pronunciation options to foreigners when they learn Korean. However, lyric diction should follow the authentic way for the primary purpose of choral performance delivering clear diction

in choral performance. About this issue, Kwang-keun Oh claims that commonly Korean people have difficulty pronouncing the vowels, ㅛ [ø] and ㅠ [y].<sup>80</sup> Oh provides an example, the word ‘외국,’ which starts with the vowel, ㅛ[ø] pronounced in two ways: [øgukː] and [wegukː]. The pronunciation with [ø] directly recalls the word to listeners, but the pronunciation with [w]-glide is reminiscent of several different words to listeners such as ‘왜국 [wɛgukː]’ or ‘웨국[wegukː]’. For ‘왜국 [wɛgukː],’ Korean people have a tendency to pronounce [ɛ] as an [e] sound. For ‘웨국[wegukː],’ this word has same pronunciation as [we] although this word does not exist in the Korean language.

## 어 [ㅏ]

IPA: [ʌ]

Tongue position: mid-low, central-back

Lip shape: unrounded

Mouth opening: mid-open

Singing: This vowel can be pronounced in multiple ways: move your tongue to the inside of your mouth from [ɛ], say the vowel in the mid-point between [a] and [ɪ], or somewhere between [a] and [o].

Audio example number: 9

In fact, the vowel ㅏ is pronounced in two ways for speaking, depending on the length of the vowel; [ɔː] for a long and [ʌ] for a short. However, this distinction is disappearing in the new generations in Korea. The younger generation in Korea tends to pronounce ㅏ as a short vowel.<sup>81</sup>

---

<sup>80</sup> Kwang-Keun Oh, “A Study on the Suggestion for the Phonetic Symbols of Korean Alphabets,” *Journal of Bangyo Language and Literature* 32 (2012): 173–202.

<sup>81</sup> Ku, *Understanding of Korean Phonology*, 126.

They are more likely to speak this vowel as the open-mid back unrounded vowel [ʌ] than the central vowel [ə]. Richard Miller explains about the formation of the neutral vowels [ʌ] and [ə] in the following quotation:

The most neutral, the most primitive, vocal expression is represented by the vowel [ʌ]... The lips part for [ʌ], but they remain unshaped; there is a slight lowering of the mandible. Closely related to [ʌ] is a sound represented by the symbol [ə] called the *schwa*... Some phoneticians view the *schwa* as a vowel tendency toward neutralization rather than as a distinctly identifiable phoneme. In unskillful singing, other vowels tend to drift toward [ə], causing unintentional blurring of vowel differentiation... Significantly, the neutral vowel is not found in formal Italian. In singing, the *schwa* functions as the unaccented corollary of [ʌ]. Although the symbols [ʌ] and [ə] represent differences in duration in speech, the temporal distinctions between them disappear in singing, when the brief sounds of spoken language are frequently elongated.<sup>82</sup>

According to Miller's statement, [ʌ] is more suitable for singing than [ə]. Although [ʌ] located among the back vowels in the vowel quadrangle (Figure 3.2), the vocalic feature of this IPA symbol is [-front, -back], the same as [ə] according to Table 3.4.<sup>83</sup> The actual placements of both vowel sounds are very close, and Davenport and Hannahs classify both vowels as central vowels in their book, *Introducing Phonetics and Phonology* (2005).<sup>84</sup> Kwang-keun Oh also recommend [ʌ] because the degree of mouth opening of the Korean vowel [ ㅓ ] is much bigger than [o].<sup>85</sup>

으 [-]

IPA: [ɨ]

Tongue position: high, central

Lip shape: unrounded, horizontal

Mouth opening: near-close

---

<sup>82</sup> Richard Miller, *The Structure of Singing: System and Art in Vocal Technique* (Boston: Schirmer, 1996), 70.

<sup>83</sup> Davenport and Hannahs, *Introducing Phonetics and Phonology*, 105.

<sup>84</sup> *Ibid.*, 49.

<sup>85</sup> Oh, "The Present Conditions and Problems of the Instruction for Pronunciation in the Korean Textbooks: Focusing on Monophthong," 72.

Singing: From the [u] position, the lips are spread almost like [i]. The tongue position is between [i] and [u] without touching the tip of tongue to the back of the lower teeth. Like the [i] vowel, this vowel is pronounced through a narrow air passage. Thus, the same resonance and space are used as the [u] vowel.

Audio example number: 10

Some materials describe this vowel sound as the close back unrounded vowel [ɯ] because it is produced when one pronounces [u] with spread lips. As /— / is one of three central vowels, [ɯ] is the more ideal IPA symbol. A more precise IPA symbol could be [ĩ] which was used in Ku's *Understanding of Korean Phonology* (2010), but this symbol is not officially used by the International Phonetic Association at this time. This vowel sound cannot be described in either [ɯ] or [ə], because [ɯ] is a rounded vowel, and [ə] is used for [ɚ] for its short length.

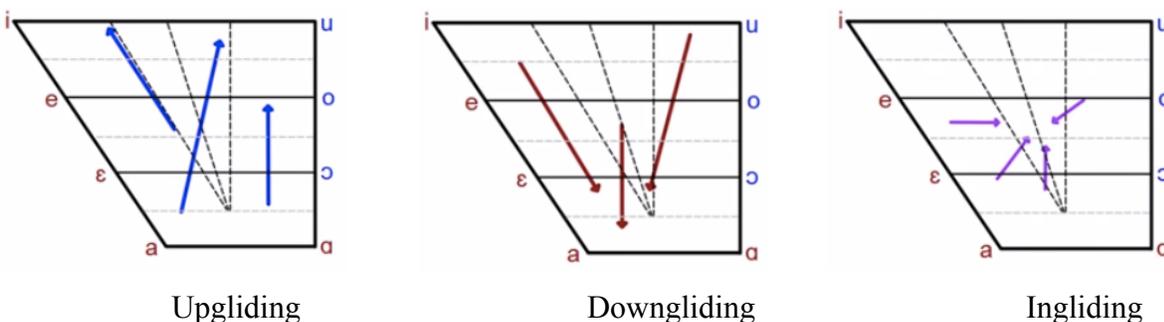
### Complex Vowels

In modern Korean, there are eleven complex vowels containing two sounds in a syllable. In phonetics, a diphthong is a gliding vowel in which a continuous transition from one position to another occurs.<sup>86</sup> The gliding happens between the first vowel (onset) and the second vowel (offset). There are three kinds of gliding: upgliding, downgliding, and ingliding. The upgliding diphthongs are also called closing diphthongs because the second vowel sound is more closed than the first vowel sound (e.g. [au], [ou], [ei], or [ai]). In contrast, the downgliding diphthongs are called opening diphthongs because the later vowel is more opened than the initiate vowel (e.g. [ea], [uo], [uɔ], or [ia]). Lastly, the ingliding diphthongs are also called centering diphthongs because the first vowel moves to the center in the vowel quadrangle (e.g. [ɛə], [aə], [oə], or [uə]). The three directions can be visualized in the vowel quadrangle as the following figure:

---

<sup>86</sup> “Diphthong -- Britannica Online Encyclopedia,” accessed September 4, 2015, <http://academic.eb.com.libdata.lib.ua.edu/EBchecked/topic/164541/diphthong>.

Figure 3.6 Three Kinds of Diphthong Glidings<sup>87</sup>



Less common diphthongs are also classified into two groups according to the prominent one of two vowel sounds. If the first part (onset) is prominent, it is called falling or descending. If vice versa, it is called rising or ascending. For instance, [ai] can be considered in two ways: [a:ĩ] for a falling diphthong pronounced [a] to be prolonged and accented then changed to [i], and [ãi] for a rising diphthong pronounced [a] and immediately moved to [i].<sup>88</sup> Korean complex vowels are all rising diphthongs because the second vowel is always prolonged at the end. However, all Korean complex vowels except  $\rightarrow$ [[iɪ]] contain one semi-vowel before a prominent vowel. This fact causes confusion regarding the definition and the classification of diphthong among the Korean diction materials.

Two definitions of diphthong are used in current Korean diction materials: a two-vowel combination that moves smoothly from one vowel sound to another within the same syllable, and a two-part sound consisting of a glide and a pure vowel. A glide is an alternative term for a semi-vowel which is a sound produced similarly to a vowel but functions as the syllable boundary rather than as a syllable nucleus like a consonant.<sup>89</sup> In the IPA chart, semi-vowels are classified as a sub-group of approximants, which is a speech sound that is produced by bringing one

<sup>87</sup> “Phonetics - Basic Segments of Speech (Vowels II) - YouTube,” accessed July 24, 2015, [https://www.youtube.com/watch?v=kB8PyODhC\\_8](https://www.youtube.com/watch?v=kB8PyODhC_8).

<sup>88</sup> The weaker vowel has an unstressed sign above the letter.

<sup>89</sup> Davenport and Hannahs, *Introducing Phonetics and Phonology*, 34.

articulator in the vocal tract to another without causing audible friction.<sup>90</sup> The most common four semi-vowels and their correspondence to the vowels are shown in the following table:

Table 3.5 Four Semi-Vowels with their Correspondence Vowels<sup>91</sup>

| Semi-vowel (non-syllabic)       | Vowel (syllabic)                  |
|---------------------------------|-----------------------------------|
| [j] (palatal approximant)       | [i] (close front unrounded vowel) |
| [ɥ] (labio-palatal approximant) | [y] (close front rounded vowel)   |
| [ɯ] (velar approximant)         | [u] (close back unrounded vowel)  |
| [w] (labiovelar approximant)    | [ʊ] (close back rounded vowel)    |

Following the narrow definition of diphthong, Kwang-geun Oh and Jae-Song Ha categorized Korean complex vowels in three groups starting with a glide: six [j]-diphthongs (ㅟ, ㅠ, ㅡ, ㅢ, ㅣ, ㅤ), four [w]-diphthongs (ㅞ, ㅟ, ㅠ, ㅡ), and one [ɥ]-diphthong (ㅢ).<sup>92</sup> There is no conflict among scholars relating to the first two groups, but there are different opinions about the vowel, ㅢ as various IPA symbols [ɥi], [ji], [ij], [wi], and [ɥi] have appeared. According to Table 3.5, a close cardinal vowel of [ɯ] corresponds to [u], which is also used for the Korean vowel, ㅢ[i]. This logic seems fairly persuasive because the compound vowel ㅢ[ɥi] is a combination of ㅢ [ɥ] and ㅣ [i]. However, [ɯ] is a voiced velar approximant which is pronounced in the same place as [g] and [ɣ]. This sound is produced with an unrounded [w] and

<sup>90</sup> “Approximant -- Britannica Online Encyclopedia,” accessed September 19, 2015, <http://academic.eb.com.libdata.lib.ua.edu/EBchecked/topic/30771/approximant>.

“Approximant Consonant,” *Wikipedia, the Free Encyclopedia*, September 9, 2015, [https://en.wikipedia.org/w/index.php?title=Approximant\\_consonant&oldid=680257520](https://en.wikipedia.org/w/index.php?title=Approximant_consonant&oldid=680257520).

<sup>91</sup> “Semivowel,” *Wikipedia, the Free Encyclopedia*, September 19, 2015, <https://en.wikipedia.org/w/index.php?title=Semivowel&oldid=681717264>.

<sup>92</sup> Oh, “A Study on the Suggestion for the Phonetic Symbols of Korean Alphabets,” 180.

Jae-Song Ha, “A Conductor’s Guide to Selected Sacred Choral Works Composed between 1980 and 2005 by Korean Composers” (D.M.A. dissertation, The Southern Baptist Theological Seminary, 2006), 43.

a very slurred [g] sound.<sup>93</sup> With this evidence, [ɰ] is not appropriate to convey the sound of ㅡ[ɰ] because it should not contain any consonant sound.

Interestingly, European diction materials consider a vowel combination with a glide as simply as a ‘glide’ not a ‘diphthong.’ The evidence can be found in the following quote:

In this discussion, we shall use the term *diphthong* to designate the type exemplified by English ‘boy,’ in which the first vowel is the longer and stronger. For the second type, as in ‘you,’ where the second vowel is the longer and stronger, we shall use the term *glide*.<sup>94</sup>

Reflecting this concept, Sun Ug Choh and Yohan Kim call Korean complex vowels ‘glide’ instead of ‘diphthong’ in their documents.<sup>95</sup> Kang Mi Kim also supports their ideas that Korean vowels do not have true diphthongs, but only [j] and [w] on-glides.<sup>96</sup> However, the vowel ㅡ was transcribed as [wi] by Sun Ug Cho, [e/i] by Yohan Kim, and [ɰi] by Kang Mi Kim, and none of their IPA symbols contain a glide symbol such as [j], [ɰ], [ɰ], or [w]. Soojeong Lee indicates the vowel as [ɰj] which has a glide after a prominent vowel.<sup>97</sup> However, a glide cannot be a prominent vowel as Korean complex vowels are all rising diphthongs.

Hun-Tae Kim clearly differentiates the vowel, ㅡ which has a unique characteristic distinct from other complex vowels and it is hard to describe which vowel sound is more prominent.<sup>98</sup> In

---

<sup>93</sup> A demonstrations of all IPA symbols in the Table 3.5 can be heard on the IPA Online website. “IPA Online - Consonants (Pulmonic),” accessed September 21, 2015, <http://teaching.ncl.ac.uk/ipa/consonants-pulmonic.html#>.

<sup>94</sup> John Moriarty, *Diction* (Boston, MA: ECS Publishing, 1975), 65.

<sup>95</sup> Sun Ug Choh, “A Study of Selected Choral Compositions Based on Korean Traditional Children’s Songs by Jung Sun Park” (D.M.A. document, University of Arizona, 2007), 33–34.

Yohan Kim, “A Korean Art Song Anthology” (D.M.A. dissertation, The University of Wisconsin - Madison, 2014), 12.

<sup>96</sup> Kang Mi Kim, “A Study of Korean Art Songs since 1900: Focusing on Pieces by Dong-Jin Kim, Heung-Yeol Lee, and Isang Yun” (D.M.A. dissertation, University of Washington, 2003), 40.

<sup>97</sup> Soojeong Lee, “Korean Diction and IPA,” in *The Use of the International Phonetic Alphabet in the Choral Rehearsal*, ed. Duane R. Karna (Lanham, Md: Scarecrow Press, 2010), 141–51.

<sup>98</sup> Hun-Tae Kim, “A Teaching Method of Korean Pronunciation for Italian Native Speakers,” *Studies in Linguistics* 21 (December 2011): 87–88.

principle, the sound of this vowel should reflect both vowel sounds of —[ɪ] and ㅓ [i] faithfully as [ɪi]. Therefore, this document classifies the eleven Korean complex vowels as [j]-diphthong, [w]-diphthong, and a unique diphthong ㅚ.

### Summary of Complex Vowels

#### [j] – Diphthongs

There are six complex vowels starting from the sound of [j]; ㅟ, ㅠ, ㅢ, ㅣ, ㅤ, and ㅥ. The sounds of these vowels are represented as [j + ㅓ], [j + ㅕ], [j + ㅗ], [j + ㅜ], [j + ㅛ], and [j + ㅝ]. [j] is a voiced palatal approximant, in which the front tongue is placed close to the hard palate and the tongue tip and blade are down with spread lips. The vocal tract shape is the same as for [i], but held only for an instant because [j] is a glide. When these vowels are sustained, only the single vowel sounds at the end remain. Like the single vowels, a null consonant, “ㅇ” accompanies each vowel symbol in Korean writing when the vowel does not have any particular consonant sound.

Table 3.6 [j] – Diphthongs

| Vowel | Orthography | Combination | IPA  | CD track number |
|-------|-------------|-------------|------|-----------------|
| ㅟ     | ㅟ           | ㅓ + ㅓ       | [ja] | 11              |
| ㅠ     | ㅠ           | ㅓ + ㅕ       | [jʌ] | 12              |
| ㅢ     | ㅢ           | ㅓ + ㅗ       | [jo] | 13              |
| ㅣ     | ㅣ           | ㅓ + ㅜ       | [ju] | 14              |
| ㅤ     | ㅤ           | ㅓ + ㅛ       | [je] | 15              |
| ㅥ     | ㅥ           | ㅓ + ㅝ       | [jɛ] | 16              |

#### [w] – Diphthongs

There are four compound vowels starting with [w]; ㅟ, ㅠ, ㅢ, and ㅣ. [w] is a voiced labial-velar approximant, which is formed with the lips rounded and the back of the tongue

nearing the velar region. The vocal tract shape is the same as [u], but is only held momentarily. Like [j]- diphthongs, the second vowel sound is sustained longer after departing from the position of the glide. Also, a space filler, “ㅇ” is added in front of each vowel in Korean orthography when the vowel is used alone without any consonant.

Table 3.7 [w] – Diphthongs

| Vowel | Orthography | Combination | IPA  | CD track number |
|-------|-------------|-------------|------|-----------------|
| 과     | 와           | ㅏ + ㅓ       | [wa] | 17              |
| 거     | 워           | ㅓ + ㅓ       | [wʌ] | 18              |
| 내     | 왜           | ㅏ + ㅔ       | [wɛ] | 19              |
| 게     | 웨           | ㅓ + ㅔ       | [we] | 20              |

A Unique Diphthong, ㅡ

The authentic pronunciation this vowel is [i] which is the consecutive sound from ㅡ [i] to ㅣ [i]. In reality, this vowel is produced in three different ways in modern Korean. First, when the vowel is the initial letter of a word, it keeps the authentic pronunciation, [i] like ‘의사 [iisa]’ meaning ‘a doctor.’ Second, the vowel is pronounced as [e] when it is used for the possessive suffix as in ‘우리의 소망 [urie soman]’ meaning ‘Our Hope.’ Third, the vowel is pronounced as [i] when it is followed by the consonant, ㅎ [h] such as ‘희생 [hisɛŋ]’ meaning ‘sacrifice.’

Table 3.8 Various Pronunciations on ㅡ

| Vowel | Orthography | Combination | IPA               | CD track number |
|-------|-------------|-------------|-------------------|-----------------|
| ㅡ     | 의           | ㅡ + ㅣ       | [i]<br>[e]<br>[i] | 21              |

CHAPTER IV  
SHAPES AND SOUNDS OF KOREAN CONSONANTS

Consonant Mechanism

Consonants are distinct from vowels in that they involve some kind of constriction of airflow, whereas vowels have no such obstruction to the outflow of the air.<sup>99</sup> The various consonant sounds are generated by where and how the physical barriers occur. They can be determined by three criteria: voicing, the place of articulation, and the manner of articulation. Voicing is a term that describes whether speech sounds are caused by vibrations of the larynx muscles or not. While all vowels are voiced, consonants are divided into voiced consonants (e.g. English word, “van”) and voiceless consonants (e.g. English word, “fan”). The other two criteria are related to articulation, meaning that the formation of phonetic speech sounds by control of the airflow in the vocal tract or by the vocal folds themselves.<sup>100</sup>

First, the place of articulation is indicated by the location where the maximum airflow restriction occurs. The restriction happens when the active articulators, the tongue or the lower lip, move to cause the constriction with the passive articulators, which are the fixed oral organs such as the teeth, the hard palate, and the soft palate. The major places of articulation are indicated in Figure 4.1 which is a cross sectional view of a human head, looking to the left. The numbers were put in order from the outside of the oral cavity to the inside. In this image, all the consonants except the glottal sounds, which are made with the vocal cords, are made either with

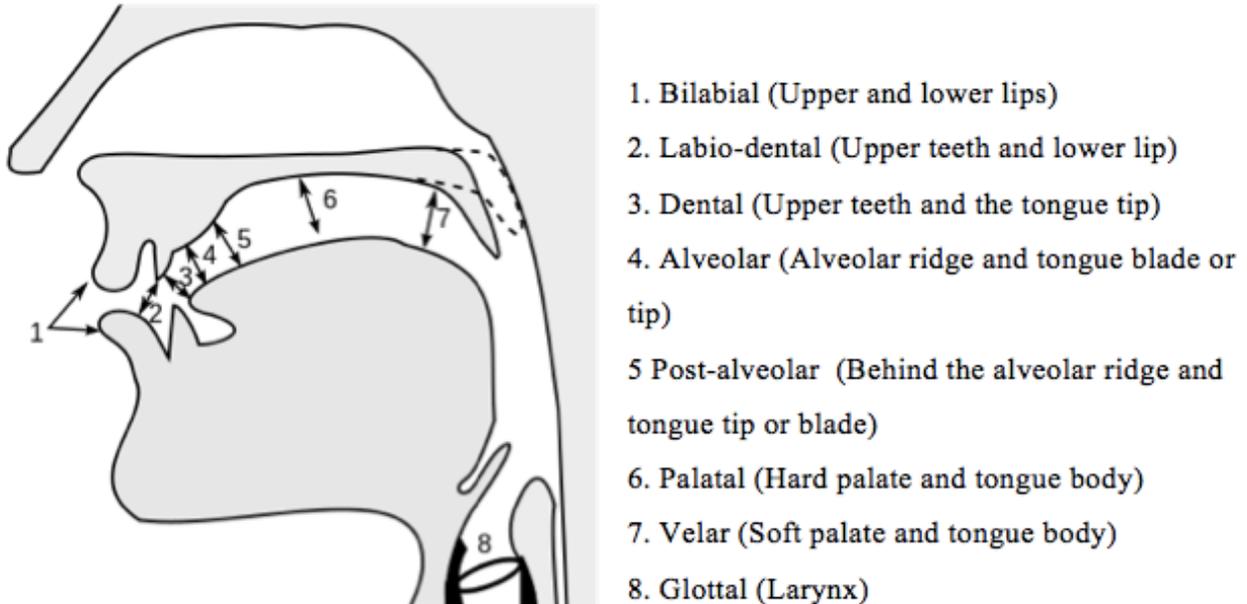
---

<sup>99</sup> Davenport and Hannahs, *Introducing Phonetics and Phonology*, 16.

<sup>100</sup> “Articulation, N.,” OED Online (Oxford University Press), accessed September 25, 2015, <http://www.oed.com/view/Entry/11196>.

the lower lip or the tongue, which close momentarily and cut off all or partial airflow through the vocal tract.

Figure 4.1 Major Places of Articulation<sup>101</sup>



Second, while the places of articulation refer to the points where consonants' sounds are produced, the manners of articulation refer to how closely the speech organs approach one another. In other words, different kinds of consonants can be produced at the same place of articulation according to the amount of airflow or method of restriction. For instance, [m] and [p] are both bilabial consonants, but [m] is considered a nasal sound, and [p] is considered a plosive sound. The manners of articulations are classified as plosive, nasal, trill, tap or flap, fricative, lateral fricative, approximant, and lateral approximant. (See Appendix C for pulmonic consonants IPA chart)

<sup>101</sup> "File:PlaceOfArticulation.svg," Wikipedia, the Free Encyclopedia, accessed September 24, 2015, <https://en.wikipedia.org/wiki/File:PlaceOfArticulation.svg>.

## Shapes of Korean Consonants

The shapes of the five basic consonants were designed to imitate the image of the speech organs articulating their sounds. According to the places of articulations, the five categories are velar (back of the tongue pressed near the uvula), alveolar (the tip of the tongue pressed against the upper gums), bilabial (joined lips), dental (sharp teeth), and glottal (round-shaped throat). This information is found in the *Hunminjeongeum Haeryebon* regarding how the fundamental consonant phonemes were made.

The velar sound, ‘ㄱ’ is the shape of the tongue root closing the throat; the lingual (tongue-tip) sound, ‘ㄴ’ is the shape of the tongue attached to the upper jaw; the labial sound, ‘ㅁ’ is the shape of the mouth; the dental sound, ‘ㅇ’ is the shape of the teeth, and the glottal sound, ‘ㅇ’ is the shape of the throat.<sup>102</sup>

The five symbols (ㄱ, ㄴ, ㅁ, ㅇ, ㅇ) are considered as the basic consonants, which are the weakest sound in the places of articulation. Utilizing the same method in modern linguistics, the following sketches visually illustrate how the basic consonant symbols were taken from the left side cross view of the human head. The five symbols were geometrically simplified by representing the line of the tongue or shape of mouth and throat.

Figure 4.2 The Letterforms of the Five Basic Korean Consonants<sup>103</sup>



<sup>102</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 123.

<sup>103</sup> Ramsey, “The Korean Alphabet,” 45.

Building upon the five basic consonants, nine consonant letters were created by adding strokes according to the strength of the sound. The *Hunminjeongeum Haeryebon* explains the procedure of creating the nine consonant symbols.

The sound of ㅋ as compared with ㄱ is harsher, and so one stroke is added; ㅋ is formed from ㄱ, ㆁ from ㄴ, ㆅ from ㄷ, ㆆ from ㄹ, ㆊ from ㅁ, ㆋ from ㅂ, ㆌ from ㅅ, ㆍ from ㅇ, and ㆎ from ㅎ.<sup>104</sup>

This instruction can be schematized as seen in the following two figures. The figure 4.3 represents a process of creating letters and the Figure 4.4 shows a degree of harshness.

Figure 4.3 Process of Creating Letters

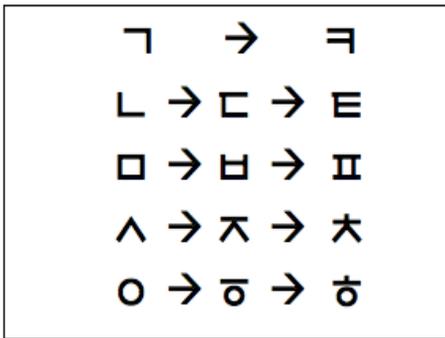
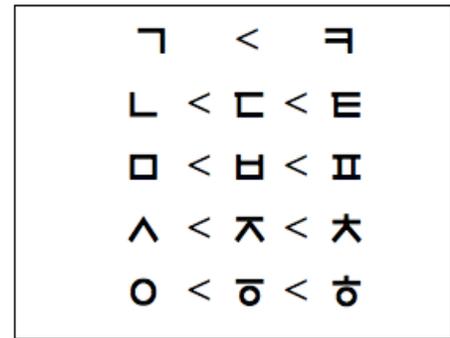


Figure 4.4 Degree of Harshness



Beside the fourteen consonant letters shown above, there were three more distinguished letters: ㄹ, ㅁ, and ㅇ. Although they look similar to the following three basic consonants: ㄱ, ㄴ, and ㅁ, they were not made by adding strokes. Rather, their shapes followed a different system, considering both the image of speech organs and the manner of articulation. For example, the shape of ㄹ (semi-lingual sound, [r] or [l]) imitated the airflow path as bending and releasing the tongue, and the shape of ㅁ (semi-dental sound, [z]) was taken from the image of the tongue near

<sup>104</sup> The National Institute of the Korean Language, *Hunminjeongeum: Written plainly so as to be understood by everyone*, 123.

the bottom teeth, and lastly the shape of ㅇ (velar sound, [ŋ]) was designed from the image of the throat similar to the glottal sound ㆁ, although ㅇ belongs to the group of the velar consonant, ㄱ.

Among the seventeen consonant letters (ㄱ,ㅋ,ㅇ / ㆁ,ㆁ,ㄴ / ㅁ,ㅍ,ㅌ / ㄷ,ㅈ,ㅊ / ㅅ,ㅎ,ㅇ / ㄹ,ㄷ), three consonant letters (ㅇ, ㆁ, ㄷ) have disappeared in the modern Korean language. Probably, ㅇ [ŋ] evolved to ㆁ, ㆁ[h̥] was absorbed by ㅎ, and ㄷ[z] was replaced by ㅈ. Consequently, fourteen single consonant letters remain in the modern Korean alphabet along with the five double consonants (ㄲ, ㄸ, ㅃ, ㅆ, ㅉ) which are counted as a number of consonant letters in modern Korean language. Although various combinations of single consonant letters appear only in the final position of a syllable, the combinations are not counted in the number of consonant letters. (e.g. 값, 땅, 앞, 닭, 뚝, 흥, etc.) In fact, the *Hunminjeongeum* introduces possible consonant combinations in the three categories: doubling the same letter (e.g. ㄲ, ㄸ, ㅃ, ㅆ, ㅉ, ㅅㅅ, ㅎㅎ, ㅇㅇ), combining two or three different letters horizontally (e.g. ㅃㄸ, ㅃㅆ, ㅃㅉ / ㅅㄴ, ㅅㄷ, ㅅㄹ, ㅅㅅ / ㅃㅅ, ㅃㄹ), and combining two letters vertically (ㅃㅇ, ㅃㅅ, ㅃㅉ, ㅃㅇ). Obviously, horizontal three-letter combinations and vertical combinations do not exist in the modern Korean, in which the numbers of two-letter combinations are much reduced. To summarize, modern Korean counts only nineteen consonant letters as Korean consonant phonemes, which can be classified in the five categories.

Figure 4.5 The Nineteen Consonant Letters in the Five Categories<sup>105</sup>



The Figure 4.5 shows that each category has the same point of articulation and all consonant letters in each category contain the shape of the basic consonant letter with bolded line. The nineteen consonants in modern Korean alphabetical order are as follows:

ㄱ, ㄴ, ㄷ, ㄹ, ㅁ, ㅂ, ㅅ, ㅇ, ㅈ,

ㅊ, ㅋ, ㆁ, ㅍ, ㅎ,

ㄲ, ㄸ, ㅃ, ㅆ, ㅌ

<sup>105</sup> “Pop Popping Korean Pronunciation,” accessed August 13, 2015, [http://www.sejonghagdang.org/storage/image/upload/data/SJL027/main\\_loader.html](http://www.sejonghagdang.org/storage/image/upload/data/SJL027/main_loader.html).

## Sounds of Korean Consonants

In the previous section, the shapes of Korean consonants were introduced by the order from the *Hunminjeongeum* starting with velar consonants (pronounced with the back of the tongue near the soft palate). Sejong chose this particular order because the Chinese phonology followed the order of his time.<sup>106</sup> From a pedagogical standpoint, however, it is logic to teach the consonants that are easier to pronounce first.

Babies learn language first from the bilabial sounds such as [m] from ‘mama’ or [p] from ‘papa.’ Jihyoung Kim supports this idea that babies’ learning process of consonants matches to the order of the places of articulation from the lips to the glottal region.<sup>107</sup> According to Kim, this order is convenient for one’s memorization, and consonants using the lips are the easiest to obtain because of its visible location on the outside of the mouth.<sup>108</sup> In addition, the IPA consonants’ chart follows this order, too.

Table 4.1 The IPA Chart for Pulmonic Consonants<sup>109</sup>

| CONSONANTS (PULMONIC) |          |             |        |          |              |           |         |       |        |            |         | © 2005 IPA |  |
|-----------------------|----------|-------------|--------|----------|--------------|-----------|---------|-------|--------|------------|---------|------------|--|
|                       | Bilabial | Labiodental | Dental | Alveolar | Postalveolar | Retroflex | Palatal | Velar | Uvular | Pharyngeal | Glottal |            |  |
| Plosive               | p b      |             | t d    |          |              | ʈ ɖ       | c ɟ     | k ɡ   | q ɢ    |            | ʔ       |            |  |
| Nasal                 | m        | ɱ           | n      |          |              | ɳ         | ɲ       | ŋ     | ɴ      |            |         |            |  |
| Trill                 | ʙ        |             | r      |          |              |           |         |       | ʀ      |            |         |            |  |
| Tap or Flap           |          | ⱱ           | ɾ      |          |              | ɽ         |         |       |        |            |         |            |  |
| Fricative             | ɸ β      | f v         | θ ð    | s z      | ʃ ʒ          | ʂ ʐ       | ç ʝ     | x ɣ   | χ ʁ    | ħ ʕ        | h ɦ     |            |  |
| Lateral fricative     |          |             | ɬ ɮ    |          |              |           |         |       |        |            |         |            |  |
| Approximant           |          | ʋ           | ɹ      |          |              | ɻ         | j       | ɰ     |        |            |         |            |  |
| Lateral approximant   |          |             | l      |          |              | ɭ         | ʎ       | ʟ     |        |            |         |            |  |

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

<sup>106</sup> Choi, Si, and Pak, *Everything You Should Know About Hangeul*, 180–81.

<sup>107</sup> Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of Hunminjeongeum,” 238.

<sup>108</sup> Ibid.

<sup>109</sup> “IPAchart2005.pdf,” accessed March 11, 2016, <http://teaching.ncl.ac.uk/ipa/images/IPAchart2005.pdf>.

The vertical axis represents the manners of articulation that are listed by the degree of restriction that decreases from the top to the bottom. The horizontal axis indicates places of articulation, and the left side is the direction of mouth and the right side is the direction of the glottal. For these reasons, the sounds of Korean consonants will be discussed in that order.

In many other languages, the vibrating vocal cords are a contrasting feature for the consonants, particularly for plosive and fricative consonants, and thus pairs of consonants are shown in the same places of articulation.<sup>110</sup> The IPA chart (Table 4.1) has pairs of consonants in most columns for plosive and fricative, which represent a voiced sound on the right side and an unvoiced sound on the left side. In English, for instance, [p] and [b] as ‘pop [pɒp]’ and ‘bob’ [bɒb] are in pairs for unvoiced and voiced consonants in the same place and manner of articulation. (e.g. [t] and [d] as ‘ted [tɛd]’ and ‘dead [dɛd]’, [k] and [g] as ‘cat [kæt]’ and ‘gat’ [gæt]’)

In Korean, however, the primary distinction of consonants is not voiced or unvoiced, but degree of aspiration or tenseness. Three different kinds of consonants can be produced in the same place and manner of articulations without accompanying vibration of the vocal cords.<sup>111</sup> The consonants with a three-way lax (plain or loose)-tense-aspirated contrast (a triple correlation) are classified in the following table:

Table 4.2 Consonants Classification According to the Degree of Harshness<sup>112</sup>

| Place       | Bilabial | Alveolar |   | Alveolo (or pre)-palatal | Velar |
|-------------|----------|----------|---|--------------------------|-------|
| Lax (plain) | ㅍ        | ㄷ        | ㄸ | ㅈ                        | ㄱ     |
| Tense       | ㅃ        | ㄸ        | ㄹ | ㅉ                        | ㄲ     |
| Aspirated   | ㅍ        | ㅌ        |   | ㅊ                        | ㅋ     |

<sup>110</sup> Jiyoung Shin, *Understanding Speech Sounds*, Revised version (Seoul, Korea: Hankookmunhwasa, 2015), 87.

<sup>111</sup> *Ibid.*, 89.

<sup>112</sup> Ku, *Understanding of Korean Phonology*, 72.

As noticed, this classification is differently grouped from the five categories for the shapes of consonants. “ㄹ” and “ㄴ” should be together with the “ㄷ” group (ㄷ, ㅌ, ㄸ) as dental consonants according to the classification for the shapes of consonants. In Table 4.2, however, the “ㄹ” group is classified as alveolar consonants, while “ㄷ” group is identified as alveolopalatal (between the alveolar and palatal region) consonants. Interestingly, this information does not remain the same from the 15<sup>th</sup> century manuscript to the modern linguistics.

There are several reasons for this confusion. First, the IPA chart has only two symbols, [θ] and [ð], for dental consonants, and both of the IPA symbols are pronounced in the same place where the tongue is placed between the upper and the lower teeth. No Korean consonants are produced between the teeth. Thus, “ㄹ” and “ㄷ” groups cannot be considered as dental consonants anymore because the consonants are not directly associated with the teeth. Secondly, the pronunciation of “ㄷ” group has been changed from the medieval Korean to modern Korean.<sup>113</sup> The “ㄷ” group might have been pronounced at the same place as the “ㄹ” group in the 15<sup>th</sup> century as the characters of “ㄷ” group derived from one of the basic consonants, “ㄹ.”

In modern Korean, both groups of “ㄷ” and “ㄹ” in the Table 4.2 are pronounced when the tip of tongue (#16 in Figure 4.6) touches the alveolar (#4) area. But, “ㄹ” group is accompanied with narrowness of the air flow.<sup>114</sup> The group of “ㄷ” is pronounced when the front of the tongue body (#15 in Figure 4.6) touches between the alveolar and palatal region which is

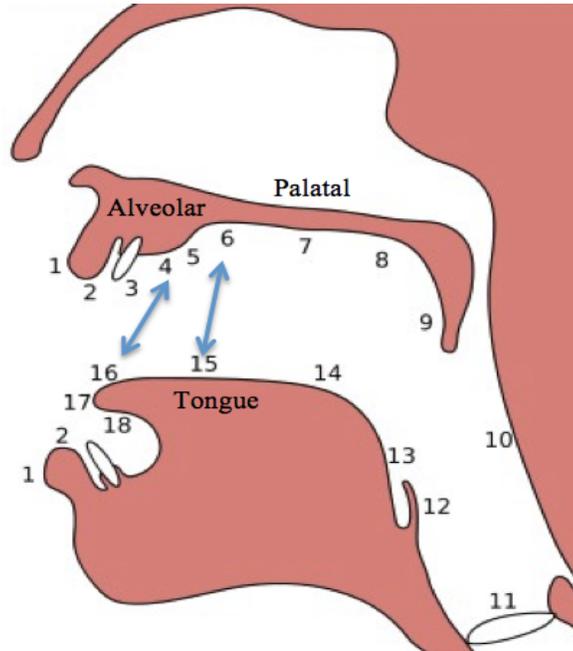
---

<sup>113</sup> Kim, “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of *Hunminjeongeum*,” 229.

<sup>114</sup> Shin, *Understanding Speech Sounds*, 73.

called either alveolopalatal or prepalatal (#6). In Korean linguistics, consonants of “ㄷ” group are also classified as palatal consonants for the sake of convenience.<sup>115</sup>

Figure 4.6 The Placements of Alveolar and Alveolopalatal Consonants<sup>116</sup>



1. Exo-labial (Outer part of lip)
2. Endo-labial (Inner part of lip)
3. Dental (Teeth)
4. Alveolar (Front part of alveolar ridge)
5. Post-alveolar (Rear part of alveolar ridge & slightly behind it)
6. Pre-palatal (Front part of hard palate that arches upward)
7. Palatal (Hard palate)
8. Velar (Soft Palate)
9. Uvular (a.k.a. Post-velar; uvula)
10. Pharyngeal (Pharyngeal wall)
11. Glottal (a.k.a. Laryngeal; vocal folds)
12. Epiglottal (epiglottis)
13. Radical (Tongue root)
14. Postero-dorsal (Back of tongue body)
15. Antero-dorsal (Front of tongue body)
16. Laminal (Tongue blade)
17. Apical (Apex or tongue tip)
18. Sub-apical (a.k.a. Sub-apical; underside of tongue)

<sup>115</sup> Jaeyoung Hahn et al., *Teaching Korean Pronunciation*, vol. Vol. 1, Korean Language Education Series (Seoul, Korea: Hollym Corp., Publishers, 2003), 266.

<sup>116</sup> “Place of Articulation,” accessed September 25, 2015, <http://conlang101.blogspot.com/>.

Consequently, Korean consonants are classified as bilabial, alveolar, alveolo-palatal, and velar. According to the classification, the pronunciation of each consonant character will be discussed with some allophones, any of the various phonetic realizations of a phoneme in a language. Normally, the basic pronunciation is applied to the initial consonant as the onset position before any vowel sounds. When the consonants are used for the final consonant as coda of the syllable, the pronunciation can be changed according to the pronunciation rules. The pronunciation of the final consonants will be discussed in the next chapter along with the concept of syllabification.

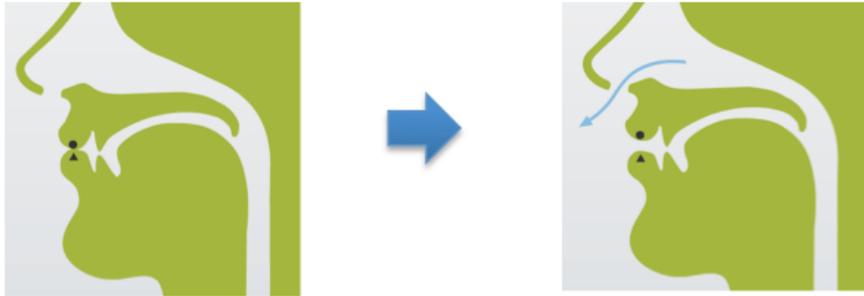
### Sounds of Bilabial Consonants

All bilabial consonants are pronounced when the lips are completely closed and then immediately opened. There are four Korean consonants in this category:  $\text{ㅁ}$  [m],  $\text{ㅂ}$  [p],  $\text{ㅃ}$  [p<sup>h</sup>], and  $\text{ㅄ}$  [p\*]. As discussed in the shapes of consonants earlier in this chapter, the basic character of bilabial consonants ( $\text{ㅁ}$ ) imitates the shape of the mouth. The Chinese character, as an ideogram, also has the same square shape ( $\text{口}$ ) for the meaning of mouth. The pronunciation of this character is simply produced with closed lips while sending out the air through the nose with the velum (soft palate) open. The equivalent IPA symbol is [m] which is a nasal stop. The stops are such sounds where the vocal tract is completely blocked for a time.<sup>117</sup>

---

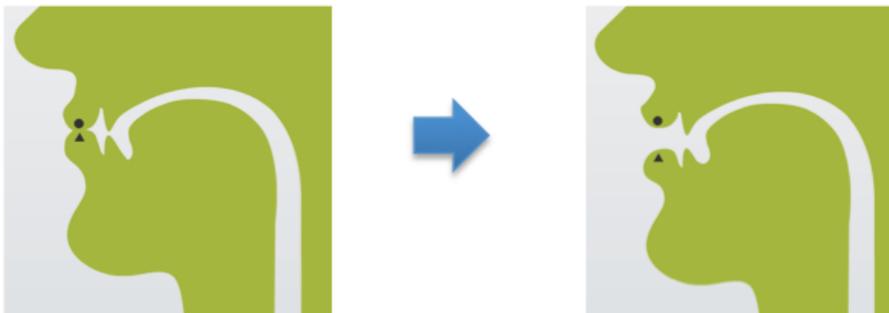
<sup>117</sup> Michael Ashby and John A. Maidment, *Introducing Phonetic Science*, Cambridge Introductions to Language and Linguistics (Cambridge ; New York: Cambridge University Press, 2005), 55.

Figure 4.7 Sound Mechanism of □<sup>118</sup>



The next three characters (ㅍ [p], ㅍᄇ [p<sup>h</sup>], ㅍᄂ [p\*]) are also stops, but in these consonants, the soft palate (velum) is raised to contact with the rear wall of the pharynx (velic closure) which blocks the nasal tract. This velic closure prevents the air passing through nasal cavity, which makes oral stops.<sup>119</sup>

Figure 4.8 Sound Mechanisms of the Oral Stops<sup>120</sup>



The three characters are closely related together and the relationship is called the triple fascia of correlation.<sup>121</sup> They all belong to the plosive sounds with respect to the manner of articulation.

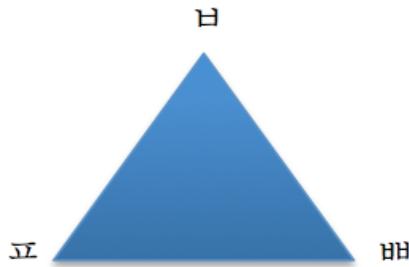
<sup>118</sup> “Pop Popping Korean Pronunciation,” accessed August 13, 2015, [http://www.sejonghacdang.org/storage/image/upload/data/SJL027/main\\_loader.html](http://www.sejonghacdang.org/storage/image/upload/data/SJL027/main_loader.html).

<sup>119</sup> Ashby and Maidment, *Introducing Phonetic Science*, 55.

<sup>120</sup> “Pop Popping Korean Pronunciation.”

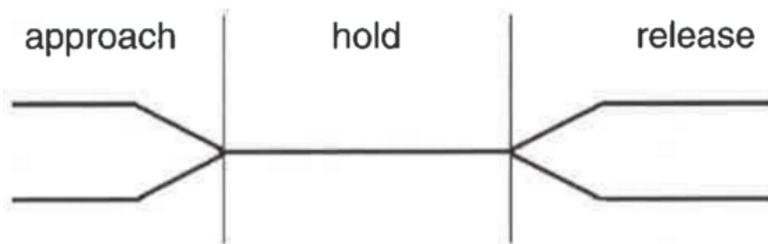
<sup>121</sup> Ku, *Understanding of Korean Phonology*, 100.

Figure 4.9 Triple Fascia of Correlation<sup>122</sup>



The plosive sounds are a kind of oral stop and produce a small explosive noise when the bilabial closure is released.<sup>123</sup> The plosives consist of three phases: the approach, the hold, and the release. In the first phase, the articulators (lips) are forming the oral closure, so the air pressure increases while the lips are holding at the second phase. Then, the compressed air is released at the third phase.<sup>124</sup>

Figure 4.10 Phases of Plosive Production<sup>125</sup>



In the word initial, the three characters (p [p], p<sup>h</sup> [p<sup>h</sup>], p\* [p\*]) have this production process as Figure 4.11, but there are distinguished factors on them. One of the factors is voice onset time (VOT), which is the delayed time with no vocal fold vibration from release of the

<sup>122</sup> Ibid., 101.

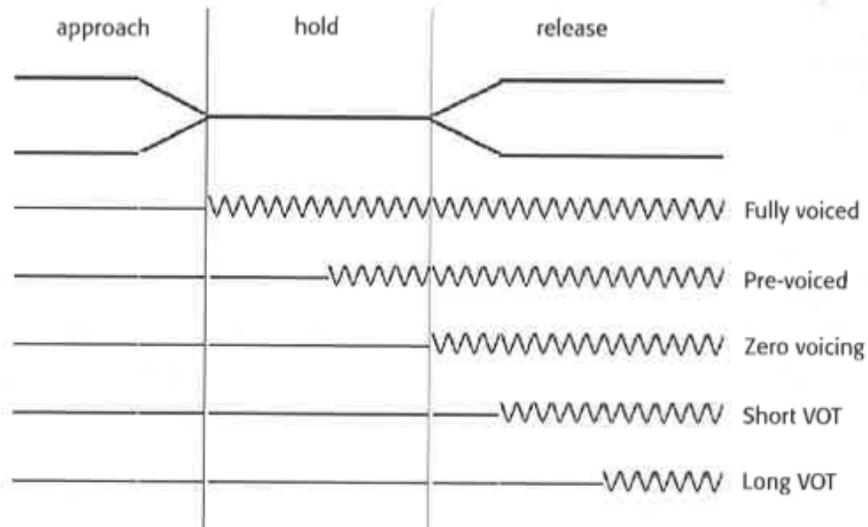
<sup>123</sup> Ashby and Maidment, *Introducing Phonetic Science*, 55.

<sup>124</sup> Ibid., 56.

<sup>125</sup> Ibid.

plosive to onset of voicing.<sup>126</sup> There are five different VOT possibilities on the plosives as seen in the following figure:

Figure 4.11 Schematic Parametric Representation on Figure 4.10<sup>127</sup>



For Korean voiceless bilabial plosives,  $\text{ㅍ}$  [p\*] is between zero VOT and short VOT like the ‘p’ sound in English words such as *spin* and *Spain*. Both  $\text{ㅍ}$  [p] and  $\text{ㅍ}$  [p<sup>h</sup>] are long VOTs more than about 50 milliseconds (1ms = one thousandth of a second), but  $\text{ㅍ}$  [p<sup>h</sup>] has much longer VOT than  $\text{ㅍ}$  [p]. If the VOT is longer than approximately 30ms, the plosive becomes aspirated. Hence, both  $\text{ㅍ}$  [p] and  $\text{ㅍ}$  [p<sup>h</sup>] are pronounced similarly as the aspiration ‘p’ sound in English words such as *price* and *proud*, but  $\text{ㅍ}$  [p] pronounces a little weaker than ‘p’ and  $\text{ㅍ}$  [p<sup>h</sup>] is a little stronger than ‘p.’<sup>128</sup> When the consonant  $\text{ㅍ}$  [p] comes between vowels, it sounds almost like the English ‘b,’ but still it is unvoiced.

In the IPA chart (Table 4.1), [p] and [b] belong to bilabial and plosive categories. The exact IPA symbols do not exist for the three Korean characters, but the pronunciation of

<sup>126</sup> Ibid., 94–95.

<sup>127</sup> Ibid., 95.

<sup>128</sup> Choo and O’Grady, *The Sounds of Korean*, 24.

character ㅍ is marked as [p] although the sound is much less than the actual [p] sound in English. When it appears in intervocalic position, it becomes like a voiced sound, so in this case, it is marked as [b]. For the character ㅍ<sup>h</sup>, a superscript [h] is added to the IPA [p] as [p<sup>h</sup>]. This kind of diacritic mark, which when written above or below a letter indicates a difference in pronunciation from the same symbol when unmarked or differently marked, is listed in the bottom of the International Phonetic Alphabet chart. (See Appendix C)

For the tense consonant ㅍ<sup>h</sup>, several IPA markings are shown in the existing resources (e.g. [pp], [p], [p'], [P], or [p\*]) because of a distinctly different viewpoints between the IPA marking for the Korean tense consonants among the Korean phonological studies.<sup>129</sup> First of all, many resources simply use ‘double p’ because the Korean character (ㅍ<sup>h</sup>) is itself represented by a sequence of two plain consonants, ㅍ. Also, there is empirical evidence that supports this geminate hypothesis that the closure duration of tense consonants in the intervocalic position is more than twice as long in comparison with their lenis (plain consonant) counterparts.<sup>130</sup> Sang Jik Rhee opposes the geminate hypothesis in his article, “Closure duration of plosives and the underlying representation of tense consonants in Korean” that the geminate hypothesis cannot be applied because the closure duration of the tense consonants results differently depending on their positions such as between two vowels, after nasals and liquids (a class of consonants consisting of lateral consonants like ‘l’ and rhotics like ‘r’).

---

<sup>129</sup> Sang-Jik Rhee, “Closure Duration of Plosives and the Underlying Representation of Tense Consonants in Korean,” *Journal of Studies in Language* 23, no. 2 (2007): 269–70.

<sup>130</sup> Hyo-Suk Kim, “An Experimental Study of Korean Intervocalic Lax and Tense Stop Consonants,” *Journal of the Korean Society of Speech Sciences*, no. 33–34 (1997): 5–6.

Rhee, “Closure Duration of Plosives and the Underlying Representation of Tense Consonants in Korean,” 274.

Next, according to the IPA chart (Appendix C), the apostrophe ['] beside symbols represents ejectives, which are non-pulmonic consonants (not relating to the lungs), but Korean tense consonants belong to pulmonic egressive sounds.<sup>131</sup> The symbol with double dots marked below [p] is an example of the diacritics for breathy voiced sounds. (See Appendix D) Shin suggests in her book, *Understanding Speech Sounds*, to use the star sign [\*] right next to the symbol to represent the tense consonants according to the method by Ladefoged's method although some scholars use the upper cases.<sup>132</sup> Peter Ladefoged (1925-2006) is a British linguist and phonetician who also made a term, approximant.<sup>133</sup> Therefore, [p\*] will be chosen as the IPA for ㅍ in this document.

#### Sounds of Alveolar Consonants

All alveolar consonants are pronounced when the blade of the tongue (the area between the top and the front of the tongue) as the active articulator contacts the alveolar ridge (the area behind the upper teeth before the hard palate) as the passive articulator and then immediately detaches. There are two groups in alveolar consonants in Korean: 'ㄴ' group and 'ㄷ' group. (Table 4.2) Five Korean consonants are in the 'ㄴ' group: ㄴ, ㄸ, ㄹ, ㄺ, and ㄻ, and two consonants are in the 'ㄷ' group: ㄷ and ㄸ.

According to the shapes of consonants, the basic character of alveolar consonants (ㄴ) imitates the shape of the tongue when it touches the alveolar ridge. To pronounce this character, the blade of the tongue presses against the bony ridge behind the upper front teeth and vibrating

---

<sup>131</sup> Shin, *Understanding Speech Sounds*, 37.

<sup>132</sup> Ibid.

<sup>133</sup> "Approximant Consonant."

air escapes through the nose.<sup>134</sup> The equivalent IPA symbol is [ɳ] and it is also a nasal stop as is the basic character of bilabial consonants, ㅁ [m].

Figure 4.12 Sound Mechanism of ㄴ<sup>135</sup>



The next three characters (ㄷ, ㅌ, ㄸ) also have a triple fascia of correlation (lax-aspirate-tense) parallel to the bilabial sounds (ㅁ, ㅂ, ㅃ). (Figure 4.9) These characters are also oral stops, which are all made by using the tongue to close off the flow of the air through the mouth just behind the upper front teeth.<sup>136</sup> These characters are pronounced similarly as English ‘t’ and ‘d’, but the difference is that the blade of the tongue makes contact with the front part of the dental ridge in Korean, as opposed to the tip of the tongue makes contact with the central part of the dental ridge in English.<sup>137</sup>

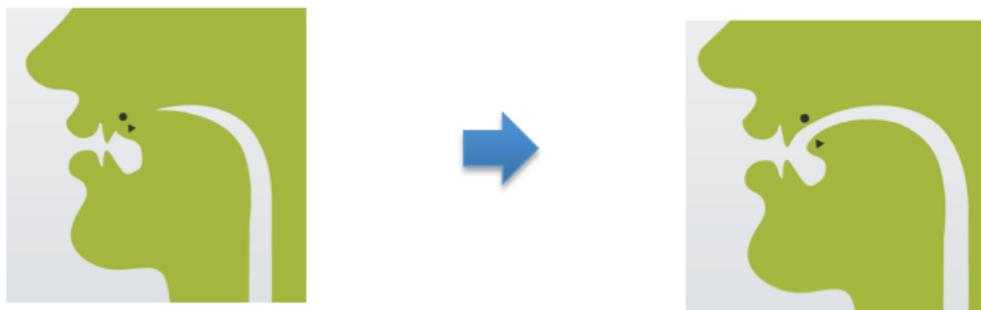
<sup>134</sup> Choo and O’Grady, *The Sounds of Korean*, 52–53.

<sup>135</sup> “Pop Popping Korean Pronunciation.”

<sup>136</sup> Choo and O’Grady, *The Sounds of Korean*, 29.

<sup>137</sup> *Ibid.*, 30.

Figure 4.13 Sound Mechanism of ㅌ, ㅊ, and ㅍ<sup>138</sup>



In the IPA chart (Table 4.1), [t] and [d] belong to dental, alveolar, and plosive consonants, but the voiced [d] cannot be considered for those Korean characters because they are all voiceless consonants. ㅌ is pronounced a little weaker than ‘t’ in the English word, ‘time’ or ‘tape’, and ㅍ is a little stronger than the ‘t’. ㅊ is similar to the ‘t’ in the English word, ‘stop’ or ‘stand’. Therefore, a lax consonant ㅌ for [t], an aspirated consonant ㅍ for [t<sup>h</sup>], and a tense consonant ㅊ for [t\*].

The last character of ‘ㄴ’ group, ㄴ is the only liquid consonant in Korean, meaning either a lateral (L-like) or a rhotic (R-like) consonant. Interestingly, this single phoneme covers both sounds; a lateral and a rhotic depending on its placement. For this reason, Leslie De’Ath mentioned in his article, “Linguistic Lingo and Lyric Diction I – The Phoneme,” that the difficulties of Korean singers have in distinguishing between a lateral and a rhotic consonant:

If two articulations are allophonic in one’s principal language, it is predictable that the environments in which each allophone occurs will form the unconscious model for their distribution in another language. For instance, both Korean and English have [l] and [ɭ], but they are allophonic in Korean, and separate phonemes in English. Korean singers have difficulty with English [l] and [ɭ], even though both articulations exist in that language. It is because Koreans are as unaware that they are different articulations as

<sup>138</sup> “Pop Popping Korean Pronunciation.”

Anglophones are unaware of [l] and [ɭ] based upon the position of the <l> in the syllable (onset vs. coda).<sup>139</sup>

In fact, liquid consonants can be made in the different manners of articulations such as trill, tap, flap, lateral fricative, approximant, and lateral approximant. However, in Korean only two different ways in the manner of articulation, tap or flap as [ɾ] and lateral approximant as [l] are applied to the character ㄹ. When the character pronounces as a rhotic consonant, it is not the rolled ‘r’ sound as [r] but the flipped ‘r’ as [ɾ]. Usually, the character ㄹ is pronounced as [ɾ] when it is a role of the onset of a syllable or the character itself, and [l] when it is a coda of a syllable. The specific cases with these two different pronunciations will be discussed with syllabification in chapter V.

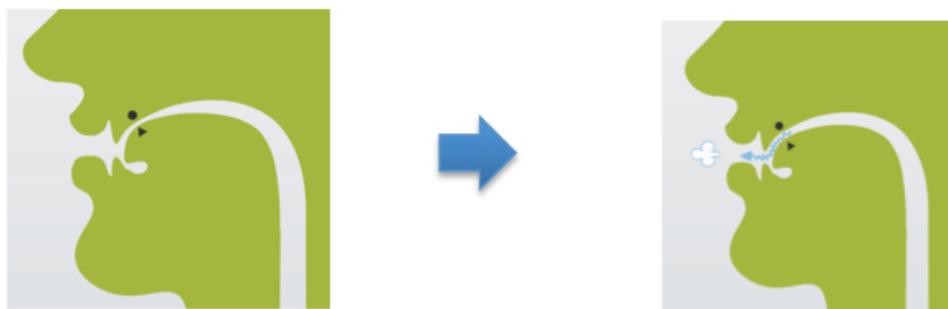
The other group ㄴ has a different manner of articulation called fricative, which is made by the friction of breath in a narrow opening, producing a turbulent air flow. This group has only two characters, ㄴ for the lax consonant and ㄵ for the tense consonant. Both characters are produced by creating a narrow opening between the blade of the tongue and the front part of the dental ridge or the upper front teeth.<sup>140</sup> The difference is that ㄴ should be pronounced in a relaxed way and ㄵ should be pronounced forcefully with a tight narrow passage for the air to flow through.

---

<sup>139</sup> Leslie DeAth, “Linguistic Lingo and Lyric Diction I - The Phoneme,” *Journal of Singing - The Official Journal of the National Association of Teachers of Singing* 67, no. 2 (November 2010): 187–93.

<sup>140</sup> Choo and O’Grady, *The Sounds of Korean*, 45.

Figure 4.14 Sound Mechanism of ㅅ and ㅆ<sup>141</sup>



In the IPA chart (Table 4.1), two symbols [s] and [z] represent the alveolar and the fricative. [z] is voiced, therefore the sound of ㅅ is marked as [s] for this character itself and the sound of ㅆ is [s\*] marked with the tensification mark. ㅅ is a little weaker than ‘s’ in English words such as ‘school’ and ‘study’ and ㅆ is a little stronger than ‘s’. Interestingly, however, [s] or [s\*] sounds are changed to alveolo-palatal fricative sound [ç] or [ç\*] before the vowel [i], ㅅ and the Korean vowels derived from [i] sound such as ㅑ, ㅓ, ㅕ, ㅗ, ㅛ, ㅜ, ㅠ, ㅡ, ㅟ, and ㅠ. In fact, ㅅ sounds like [ç] with the vowel ㅠ. However, it is similar because of the rounded vowel, ㅠ [y] not because the consonant is pronounced as voiceless postalveolar fricative which is the feature of the IPA symbol, [ʃ].<sup>142</sup>

#### Sounds of Alveolo-palatal Consonants

The placement of alveolo-palatal consonants is seen in Figure 4.6. Three characters (ㅅ, ㅆ, ㅈ) are produced between the teethridge and the hard palate when the blade of the tongue touches there. Although the shapes of these characters were derived from ㅅ, both the place of articulation and the manner of articulation are somewhat different in the modern Korean pronunciation. ㅅ and ㅆ are pronounced as alveo-palatal consonants before [i] and [i] like

<sup>141</sup> “Pop Popping Korean Pronunciation.”

<sup>142</sup> Shin, *Understanding Speech Sounds*, 76.

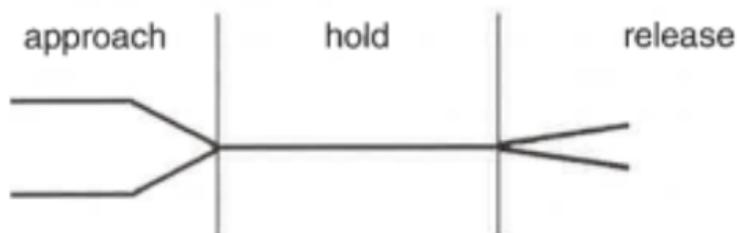
vowels, so these two characters can be classified with the three affricate Korean letters since their shapes are derived from ㅅ.

Figure 4.15 Sound Mechanism of ㅆ, ㅆ, and ㅆ<sup>143</sup>



The particular manner of articulation, affricate, is actually a combination between plosive and fricative. Thus, the consonants in the category have both features of plosive and fricative. Affricates involve the same approach of the articulators and the same kind of hold phase as plosives, but a much slower parting of the articulators during the release phase.<sup>144</sup> Therefore, the air rushing between the two articulators makes a hissing sound during the slower release.<sup>145</sup>

Figure 4.16 Phases of Affricate Production<sup>146</sup>



In the IPA chart (Table 4.1), the symbols of alveolo-palatal consonants are not shown. Yet, the entire IPA chart (Appendix C) indicates two symbols, [tʃ] and [dʒ] for alveo-palatal fricatives under the group of other symbols. As the affricate has both features of plosive and

<sup>143</sup> “Pop Popping Korean Pronunciation.”

<sup>144</sup> Ashby and Maidment, *Introducing Phonetic Science*, 56.

<sup>145</sup> Ibid.

<sup>146</sup> Ibid.

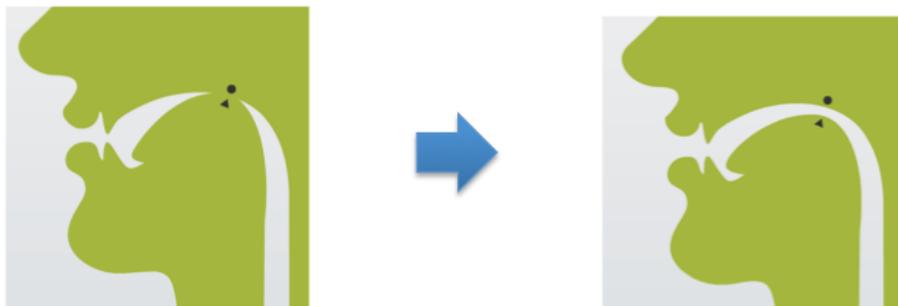
fricative, the exact symbols can be the combination of alveo-palatal plosives and alveo-palatal fricatives. Regarding this issue, an additional suggestion can be found in the group of other symbols in the Appendix C, “Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.” Consequently, the three Korean alveolo-palatal affricate consonants (ㅈ, ㅉ, ㅊ) need to be represented with two symbols which are combined with one from alveolar-palatal plosives, [t] or [d], and the other from alveolar-palatal fricatives, [ç] or [ʒ]. As the Korean consonants are voiceless, the voiced IPA symbols, [d] and [ʒ], are not valid. Therefore, if the three-way contrast lax-tense-aspirated applied, the three Korean consonants, ㅈ-ㅉ-ㅊ should be represented as [tç]-[tç\*]- [tçʰ].

#### Sounds of Velar Consonants

In Korean, there are four velar consonants: ㄱ, ㄲ, ㅋ, and ㅇ. However, the nasal consonant ‘ㅇ’ has a different feature from the group of ‘ㄱ’ which is plosive, and ‘ㅇ’ also uses for the silent filler when the vowel does not accompany any particular consonants. Yet, ‘ㅇ’ has only phonetic value when it is used for final consonant at a syllable and the shape of ‘ㅇ’ influenced to the glottal consonants. Thus, the author will deal with the group of ‘ㄱ’ only in this chapter.

The group of ㄱ consonants are all homorganic both in place and manner of articulation. The three consonants’ sounds all involve closing off the flow of air through the mouth by pressing the body of the tongue tightly against the soft palate of the mouth, as the sounds of [k] and [g]. These three consonants are also relevant to the three-way contrast like the other Korean stops: ㄱ for lax – ㄲ for tense – ㅋ for aspirate.

Figure 4.17 Sound Mechanism of ㄱ, ㅋ, and ㆁ<sup>147</sup>



In the IPA chart, only two symbols belong to velar and plosive: [k] and [g]. As we considered all other Korean stops, [g] cannot be used for voiceless Korean consonants because it is voiced. [k] is the only possibility to represent the sound of ㄱ, ㅋ, and ㆁ. However, the actual sound of ㄱ is not exactly the same as the English ‘k’ sound such as ‘kind’ or ‘king’, but a little softer and it seems close to the [g] sound although it is voiceless. The sound of ㆁ is a little harsher than [k]. The sound of ㅋ can be heard when the [k] sound comes after ‘s’ in English words like ‘school’ or ‘score’. The same logic of a three-way contrast will be applied for the IPA symbols on the consonants: ㄱ [k] – ㅋ [k\*] – ㆁ [k<sup>h</sup>].

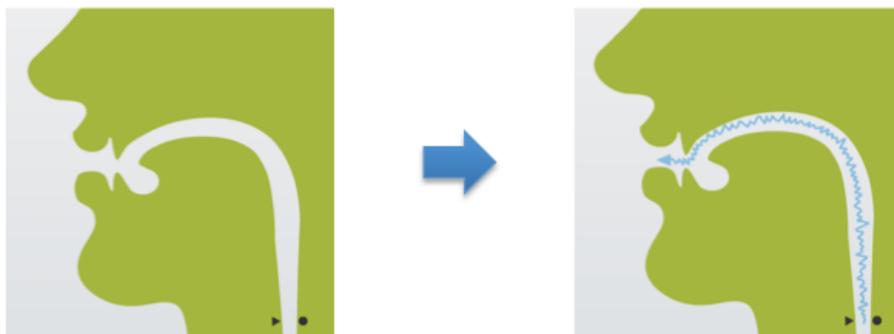
#### Sounds of Glottal Consonants

Modern Korean only contains one glottal consonant, ㅎ, which only involves the vocal cords. They are located in the larynx for active articulator without any passive articulator. To pronounce ㅎ sound, the vocal cords are partly closed to create a narrow passage, so the air passage can be made from the lungs. Then friction results in the throat similar to the ‘h’ sound in English like ‘hope’ or ‘hill’. Because of the friction, this consonant is classified fricative in the

<sup>147</sup> “Pop Popping Korean Pronunciation.”

manner of articulation along with the group of ㅅ in Korean. The equivalent IPA symbol for this character is [h], which represents both glottal and fricative.

Figure 4.18 Sound Mechanism of ㅎ<sup>148</sup>



Summary

With respect to the features described earlier in this chapter, Korean consonants can be classified as the following table. Each character is indicated with the equivalent IPA symbols.

Table 4.3 Korean Consonants with the IPA Symbols

| Manner \ Place |           | Bilabial                         | Alveolar                         | Alveolo-palatal                   | Velar                            | Glottal  |          |
|----------------|-----------|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|----------|----------|
| Plosive        | Plain     | ㅍ [p]                            | ㅌ [t]                            |                                   | ㅋ [k]                            |          | Unvoiced |
|                | Tense     | ㅃ [p*]                           | ㅆ [t*]                           |                                   | ㆁ [k*]                           |          |          |
|                | Aspirated | ㅍᄂ [p <sup>h</sup> ]<br>Audio 22 | ㅌᄂ [t <sup>h</sup> ]<br>Audio 23 |                                   | ㅋᄂ [k <sup>h</sup> ]<br>Audio 24 |          |          |
| Affricate      | Plain     |                                  |                                  | ㅈ [t͡ɕ]                           |                                  |          |          |
|                | Tense     |                                  |                                  | ㅉ [t͡ɕ*]                          |                                  |          |          |
|                | Aspirated |                                  |                                  | ㅊ [t͡ɕ <sup>h</sup> ]<br>Audio 25 |                                  |          |          |
| Fricative      | Plain     |                                  | ㅅ [s]                            | ㅆ [ɕ]                             |                                  | ㅎ [h]    |          |
|                | Tense     |                                  | ㅆ [s*]<br>Audio 26               | ㅆ [ɕ*]<br>Audio 27                |                                  | Audio 28 |          |
| Nasal          |           | ㅁ [m]<br>Audio 29                | ㄴ [n]<br>Audio 30                |                                   | ㅇ [ŋ]<br>Audio 31                |          | Voiced   |
| Liquid         |           |                                  | ㄹ [ɾ]<br>[l]<br>Audio 32         |                                   |                                  |          |          |

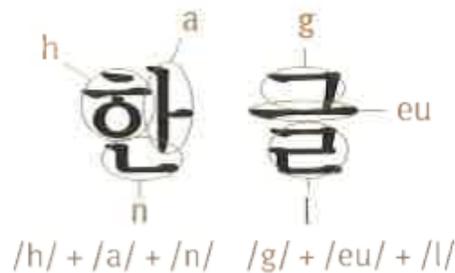
<sup>148</sup> Ibid.

CHAPTER V  
SYLLABIFICATION

Syllable blocks

While consonants and vowels are written out horizontally in other languages, in *Hangeul*, consonants and vowels are combined together to make syllabic blocks, so that each compound letter becomes a syllable. Syllables usually contain up to three parts: the onset (consonant or consonant cluster), the nucleus (vowels), and the coda (consonant or consonant cluster). The coda is called “Batchim” in Korean, literally meaning, “support,” because it is always in the bottom of a syllable. For example, the word, *Hangeul* consists of two syllables, “han” and “geul.” In Korean orthography, the final consonants, “ㄴ [n]” from the first syllable, “한” and “ㄹ [l]” from the second syllable, “글” are both located in the bottom.

Figure 5.1 *Hangeul* as a Syllable-Based Orthography<sup>149</sup>



Korean orthography requires the Korean vowel to be written by itself. To present the vowel sounds, the Korean vowel letters must be accompanied by an initial consonant , ‘ㅇ’ which is a silent filler. Table 5.1 shows what the possible phonemes are for the initial, medial, and final positions in Korean syllables. All fourteen simple consonants can appear in both the

<sup>149</sup> The Korea Foundation, *Hangeul*, 19.

initial and the final position, but the possible number of double consonants and consonant clusters are different in both positions.

Table 5.1 Possible Phonemes Forming Syllables in Korean

| Position         | Classification    | Letter   | Number of Letters |
|------------------|-------------------|--|-------------------|
| Initial (Onset)  | Simple Consonant  | ㄱ, ㄴ, ㄷ, ㄹ, ㅁ, ㅂ, ㅅ, ㅇ, ㅈ, ㅊ, ㅋ, ㆁ, ㆅ            | 14                |
|                  | Double Consonant  | ㄲ, ㄸ, ㅃ, ㅆ, ㅉ                                    | 5                 |
| Medial (Nucleus) | Simple Vowel      | ㅏ, ㅑ, ㅓ, ㅕ, ㅗ, ㅛ, ㅜ, ㅠ, ㅡ, ㅣ                     | 10                |
|                  | Compound Vowel    | ㅘ, ㅙ, ㅚ, ㅜ, ㅝ, ㅞ, ㅟ, ㅠ, ㅡ, ㅢ                     | 11                |
| Final (Coda)     | Simple Consonant  | ㄱ, ㄴ, ㄷ, ㄹ, ㅁ, ㅂ, ㅅ, ㅇ, ㅈ, ㅊ, ㅋ, ㆁ, ㆅ            | 14                |
|                  | Double Consonant  | ㄲ, ㅆ   | 2                 |
|                  | Consonant Cluster | ㄱㅅ, ㄴㅇ, ㄴㅇㄹ, ㄴㅇㄹ, ㅃㅅ, ㅃㅅ, ㅃㅅ, ㄴㅅ, ㄴㅅ, ㄴㅅ, ㄴㅅ, ㄴㅅ | 11                |

According to the possible letters shown in the table above, generally two types of syllables can be made in Korean: Consonant + Vowel (CV) and Consonant + Vowel + Consonant (CVC). The first type, which has only initial and medial positions, is called an open syllable. The second type is called a closed syllable when ending another consonant is used as a final position.<sup>150</sup> Note that Consonant (C) and Vowel (V) are defined phonologically. Phonetically, Vowel (V) and Vowel + Consonant (VC) syllables are possible, but Korean orthography does not permit writing only vowels; rather it is always accompanied by the initial consonant, “ㅇ” which has no phonetic value. Thus, the general two types of syllables can be divided into six different kinds of shapes depending on the vowel types in Korean.

*Hunminjeongeum* explains how to combine letters to make syllables:

<sup>150</sup> Ji-Hyung Kim and Min-Woo Lee, *Understanding of Korean Linguistics* (Seoul, Korea: UCL Inc., 2015), 89.

The initial, middle, and final letters are combined to make syllables. The initial consonants are written above and to the left of the middle vowels. For middle letters, which are round and horizontal  $\cdot$   $—$   $\dot{—}$   $\ddot{—}$   $\ddot{—}$   $\ddot{—}$ , they are written below the initial consonant. The vertical middle letters,  $ㅣ$   $ㅏ$   $ㅑ$   $ㅓ$   $ㅕ$  are written to the right of the initial consonants. Final consonants are written below the initial and middle sounds. The combination and use of two or three middle vowels can be seen in the example of the native Korean word “ $\text{교}$ ” which means the bridge of a Korean harp, and “ $\text{화}$ ” which means torch.<sup>151</sup>

Based on the explanation in the *Hunminjeongeum*, the modern Korean vowels can be classified in three categories: vertical, horizontal, and combination vowels.

Vertical vowels:  $ㅏ$ ,  $ㅑ$ ,  $ㅓ$ ,  $ㅕ$ ,  $ㅗ$ ,  $ㅛ$ ,  $ㅜ$ ,  $ㅠ$ ,  $ㅡ$ ,  $ㅣ$  (9)

Horizontal vowels:  $ㅗ$ ,  $ㅜ$ ,  $ㅛ$ ,  $ㅠ$ ,  $ㅡ$  (5)

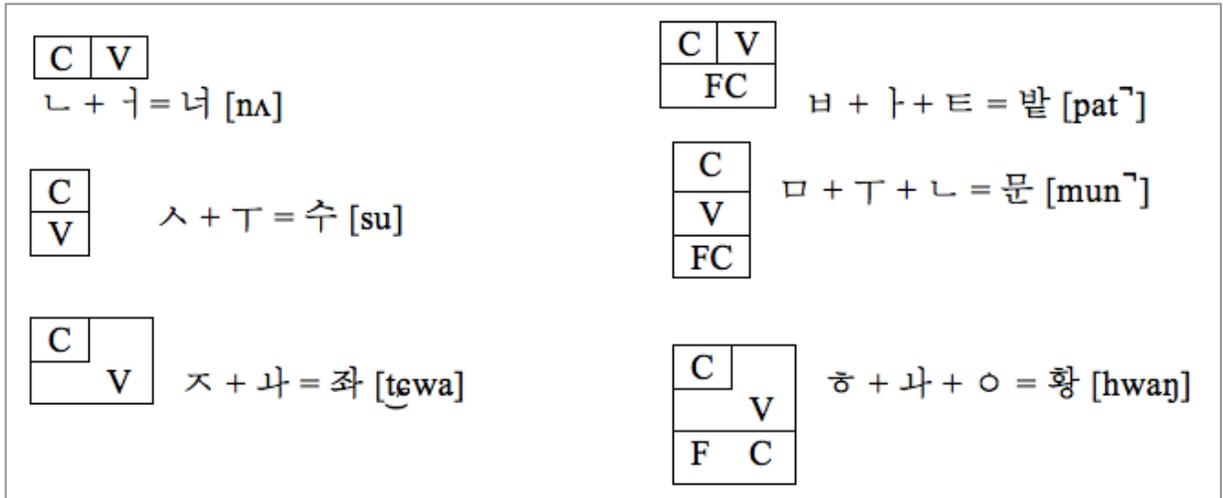
Combination vowels:  $ㅘ$ ,  $ㅙ$ ,  $ㅚ$ ,  $ㅛ$ ,  $ㅜ$ ,  $ㅠ$ ,  $ㅡ$ ,  $ㅣ$  (7)

Using this classification, three different shapes of Consonant + Vowel (CV) syllables can be made. The first shape is formed with the vertical vowel and the initial consonant on the left side of the vowel. The second shape is formed with the horizontal vowel and the initial consonant above the vowel. The third shape is formed with the initial consonant surrounded by the combination vowel. The second type of syllable, Consonant + Vowel + Consonant (CVC) also has three different shapes according to the shapes of vowels. The only difference from the first type is the addition of a final consonant below the first type of syllable, Consonant + Vowel (CV).

---

<sup>151</sup> Seoul-ong Kim, *Hunminjeongeum Haeryeobon* (Paju, Kyounggi-do: Kyobomungo, 2015), 176.

Figure 5.2 Various Types of Syllabic Forms in Korean



## Pronunciation of final consonants

### Final consonant in a single syllable

The sounds of final consonants (*Batchim*) are not released in Korean when each syllable is pronounced itself and in front of a consonant. No matter what kind of consonants (single, double, or clusters) are in the final position, their pronunciation are all represented as one of the unreleased seven single consonants, ㄱ, ㄴ, ㄷ, ㄹ, ㅁ, ㅂ, ㅇ, and ㅅ. For the IPA transcription, the diacritic symbol like a small ㄱ shape is employed on the right side above the sound letter for no audible release, such as [t<sup>ㄱ</sup>] for unreleased [t], non-aspirated unlike English.

When ㄱ, ㅋ, ㆁ, ㆁ, ㆁ, ㆁ, ㆁ consonants are in the coda position, they are pronounced as unreleased ㄱ [k<sup>ㄱ</sup>]. The back of the tongue stays in the velum (soft palate) and remains elevated in contact with the velum. The example words are 막 [mak<sup>ㄱ</sup>], 밖 [pak<sup>ㄱ</sup>], 부엌 [pu-Λk<sup>ㄱ</sup>], 뉘 [nΛk<sup>ㄱ</sup>], and 닭 [tak<sup>ㄱ</sup>]. (Audio example 33)

Figure 5.3 Tongue Placement of the Final Consonant, ㄱ<sup>152</sup>



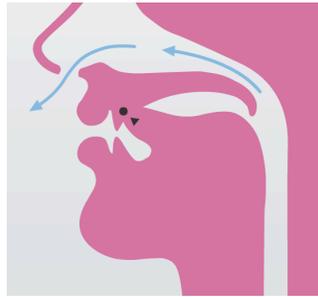
When ㄴ, ㄴ, ㄴ consonants are in the coda position, they are pronounced as unreleased ㄴ [n<sup>ㄱ</sup>]. The blade of the tongue stays in the alveolar ridge (behind of the front teeth and the

---

<sup>152</sup> “Pop Popping Korean Pronunciation.”

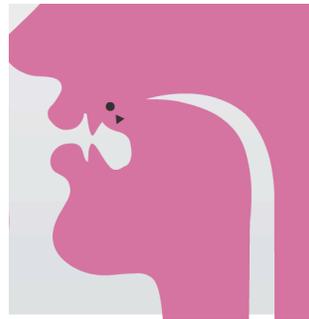
upper gums), and the air escapes through the nose. The example words are **문** [mun<sup>ㄴ</sup>], **만** [man<sup>ㄴ</sup>], and **안** [an<sup>ㄴ</sup>]. (Audio example 34)

Figure 5.4 Tongue Placement of the Final Consonant, **ㄴ**<sup>153</sup>



When **ㄷ, ㅌ, ㅈ, ㅊ, ㅊ, ㅊ, ㅎ** consonants are in the coda position, they are pronounced as unreleased **ㄷ** [t<sup>ㄴ</sup>]. The blade of the tongue stays in the alveolar ridge. The example words are **반** [pat<sup>ㄴ</sup>], **발** [pat<sup>ㄴ</sup>], **옷** [ot<sup>ㄴ</sup>], **있** [it<sup>ㄴ</sup>], **낮** [nat<sup>ㄴ</sup>], **닷** [tat<sup>ㄴ</sup>], and **놓** [not<sup>ㄴ</sup>]. (Audio example 35)

Figure 5.5 Tongue Placement of the Final Consonant, **ㄹ**<sup>154</sup>

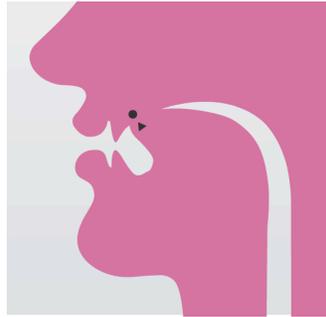


When **ㄷ, ㄷ, ㄷ, ㄷ, ㄷ** consonants are in the coda position, they are pronounced as unreleased **ㄷ** [l<sup>ㄴ</sup>]. The tip of the tongue presses lightly against gum-ridge directly above upper teeth. The example words are **을** [il<sup>ㄴ</sup>], **울** [ol<sup>ㄴ</sup>], **늘** [nal<sup>ㄴ</sup>], **할** [hal<sup>ㄴ</sup>], and **알** [al<sup>ㄴ</sup>]. (Audio example 36)

<sup>153</sup> Ibid.

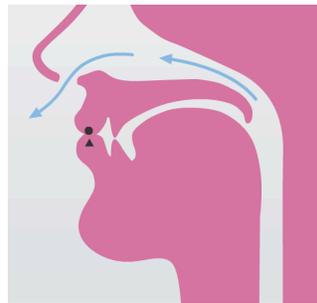
<sup>154</sup> Ibid.

Figure 5.6 Tongue Placement of the Final Consonant, ㅁ<sup>155</sup>



When consonants ㅁ and ㅃ are in the coda, they are pronounced as unreleased ㅁ [m̚]. The lips are closed and the air flows through the nose. The example words are 밤 [pam̚] and 앎 [am̚]. (Audio example 37)

Figure 5.7 Tongue Placement of the Final Consonant, ㅍ<sup>156</sup>



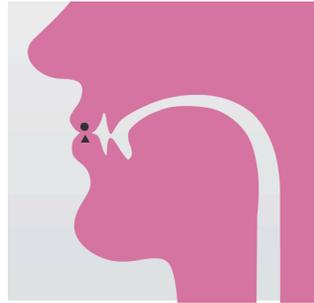
When ㅍ, ㅑ, ㅓ, ㅕ, ㅗ, ㅛ are in the coda, they are pronounced as unreleased ㅍ [p̚]. The lips are not exposed. The example words are 삽 [sap̚], 샅 [ɕjap̚], 읊 [ip̚], and 꺾 [kap̚]. (Audio example 38)

---

<sup>155</sup> Ibid.

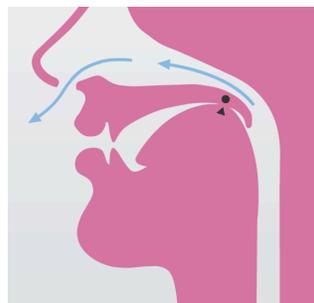
<sup>156</sup> Ibid.

Figure 5.8 Tongue Placement of the Final Consonant, ㅃ<sup>157</sup>



When ㅇ is in the coda position, it is pronounced as unreleased ㅇ [ŋ̚]. The back of the tongue touches the soft palate lightly without a tension. The airstream escapes through the nasal cavity. The example word is ㅋ [kŋ̚]. (Audio example 39)

Figure 5.9 Tongue Placement of the Final Consonant, ㅇ<sup>158</sup>



Final consonants need special attention during singing to preserve an unbroken legato line. If a final consonant is pronounced with an initial consonant and a vowel simultaneously, the syllable sound is immediately disconnected. Thus, as soon as the first consonant is initiated, the vowel is held for most of the duration of the note, and then the last consonant is put at the end of the note, not by itself, but with the preceding vowel. Although music does not show the separation due to *Hangeul* as a syllabic writing system, the final vowel needs to be elongated and the final consonant is put at the end without release.

---

<sup>157</sup> Ibid.

<sup>158</sup> Ibid.

Example 5.1 *Arirang*, mm. 2 and 5<sup>159</sup> (Audio example 40)

아 - 리랑 -  
 /a - ri - raŋ˦ - /  
 [a - ri - ra - ŋ˦]

Example 5.2 *Arirang*, mm. 9<sup>160</sup> (Audio example 41)

나 - 를  
 /na - ri˦ /  
 [na - ri - l˦]

Final consonants before vowels

When a final consonant (single or double consonant) is followed by a vowel in the next syllable, liaison occurs. The final consonant is simply carried over to the initial position of the following vowel, so it is replaced by the null consonant (ㅇ) of the next vowel. For example, 믿음 /mit˦ - im˦/ which means ‘faith,’ is pronounced as [mi-dim˦]. Likewise, 님은 /nim˦ - in˦/ is pronounced as [ni-min˦]. The word can be found in the Korean folk song, *Arirang*. (Audio example 42)

<sup>159</sup> “OCAPLUS > 악보자료실 > 아리랑,” accessed January 26, 2017, [http://www.ocaplus.net/bbs/view.php?&bbs\\_id=bbs7&page=2&doc\\_num=42](http://www.ocaplus.net/bbs/view.php?&bbs_id=bbs7&page=2&doc_num=42).

<sup>160</sup> Ibid.

Example 5.3 *Arirang*, mm. 10-11 <sup>161</sup>



가 시 는 님 - 은 - - -  
 /ka ei nin **nim** - **in** - - - /  
 [ka ei ni-in **ni** - **mi** - - **n**']

When a consonant cluster at the coda position is followed by a vowel in the next syllable, the consonant sound on the left side of the cluster remains as a coda in the syllable while the consonant on the right side of the cluster moves to the next syllable pronounced with a vowel. For instance, 맑은 /malk<sup>ㄴ</sup>in/ is pronounced as [mal<sup>ㄴ</sup>-kin]. The word can be found in the Korean folksong, *Hangangsu Taryeong*. (Audio example 43)

Example 5.4 *Hangangsu Taryeong*, mm. 2<sup>162</sup>



깊 고 - 맑 은 - 물 - - 에 -  
 /kip<sup>ㄴ</sup>ko - **malk**<sup>ㄴ</sup>**in** - mul - - e - /  
 [kip<sup>ㄴ</sup>ko - **mal**<sup>ㄴ</sup>**ki** - n mu - - re - ]

When consonant clusters have ㅎ [h] at the right side such as ㄴㅎ and ㄹㅎ, ㅎ [h] becomes silent, so the remaining consonant moves to the initial consonant of the next vowel. For example, the sound of 맑이 /man<sup>ㄴ</sup>i/ becomes [ma-ni], and pronunciation of 닳아 /tal<sup>ㄴ</sup>a/ changes to [ta-ra]. As ㅎ [h] has the same phonetic value as ‘h’ in English, it is a similar phenomenon when ‘h’ becomes silent in English words such as ‘hour’ or ‘honest.’

<sup>161</sup> Ibid.

<sup>162</sup> “[한강수 타령] 경기민요. 2 쪽,” accessed January 28, 2017, [http://blog.daum.net/\\_blog/BlogTypeView.do?blogid=0JP5t&articleno=6970037](http://blog.daum.net/_blog/BlogTypeView.do?blogid=0JP5t&articleno=6970037).

Final consonants before consonants

As *Hangeul* is a phonetic alphabet, Korean words are usually pronounced as they are written. However, it is often troublesome when a final consonant is followed by another consonant in the next syllable. The consecutive consonants affect each other, so one or both consonants change to different sounds. Several prominent features can be found in the following cases: assimilation, palatalization, tensification, and aspiration.

Sometimes a final consonant becomes a similar sound to the next initial consonant and vice versa. These cases are called assimilation. There are several assimilations that happen in Korean such as nasalization and liquidization. First, when a final consonant is followed by nasal consonants such as ㄴ [n] or ㅁ [m], the final consonant's sound is nasalized as one of the nasal consonants, ㅇ [ŋ], ㄴ [n], or ㅁ [m]. The example word, *벧놀이* [ben<sup>ㄴ</sup>-no-ri] is from *Hangangsu Taryeong*. (Audio example 44)

Example 5.5 *Hangangsu Taryeong*, mm. 4<sup>163</sup>



에 루 화 벧 놀 이 가 잔 - 다 -  
 /e ru hwa **bet<sup>ㄴ</sup>nol-i** ka tʃan<sup>ㄴ</sup> - ta - /  
 [e ru hwa **ben no- ri** ka dʒa-n<sup>ㄴ</sup> da - ]

Secondly, when the initial consonant ㄹ [r] is preceded by a nasal sound such as ㅁ [m] or ㅇ [ŋ], ㄹ [r] is nasalized to ㄴ [n]. For instance, *담력*/tam<sup>ㄴ</sup>-rjak<sup>ㄴ</sup>/ is pronounced as [tam<sup>ㄴ</sup>-njak<sup>ㄴ</sup>], and *중로*/tʃon<sup>ㄴ</sup>-ro/ is pronounced as [tʃon<sup>ㄴ</sup>-no]. Thirdly, the initial consonant ㄹ [r] after a final consonant ㄱ [k<sup>ㄴ</sup>] or ㅍ [p<sup>ㄴ</sup>] also nasalized to ㄴ [n], as well as the final consonant, ㄱ [k<sup>ㄴ</sup>]

---

<sup>163</sup> Ibid.

or ㅁ [p̃] is nasalized to ㅇ [ŋ̃] or ㅃ [m̃]. For example, the actual pronunciation of 십리도 /eip̃ -ri -to/ is [eim̃ - ni - do]. Conversely, the nasal consonant, ㄴ [n] is liquidized to ㄹ [ɾ, l] when ㄴ [n] and ㄹ [ɾ, l] occur right next to each other. 삼천리/sam̃ -tɕʰʌñ -ri/ is pronounced as [sam̃ - tɕʰʌli].

When a non-palatal consonant, ㄷ [t] or ㅌ [tʰ] is followed by a palatal vowel ‘ㅣ [i]’, the consonant is linked to the vowel as a palatal consonant sound, ㅈ [tɕ] or ㅊ [tɕʰ]. Furthermore, when suffix, ‘히 [hi]’ combines with ㄷ [t], it is also palatalized as ㅈ [tɕʰi]. For example, the word ‘해돋이/hɛ-dot̃ -i/’ meaning ‘sunrise’ is pronounced as [hɛ-do-dɕi] not [hɛ-do-ti]. Here, the consonant ㅈ [tɕ] is voiced as [dɕ] because the consonant is placed between the vowels. Another example, ‘같이 /kat̃ -i/’ meaning ‘together’ is pronounced as [ka-tɕʰi] not [ka-ti].

In some cases, Korean unvoiced lax consonants (ㄱ [k], ㄷ [t], ㅂ [p], ㅅ [s], ㅈ [tɕ]) are pronounced as their tense consonants (ㄱ\* [k\*], ㄷ\* [t\*], ㅂ\* [p\*], ㅅ\* [s\*], ㅈ\* [tɕ\*]). These changes are called tensification. The following words are selected from the Korean folksongs:

발병난다/pal̃ -p̃jʌŋ̃ -nañ -ta/ from *Arirang* as [pal̃ -p̃\*jʌŋ̃ -nañ -da], 녹두밭에/nok̃ -tu-pat̃ -e/ from *Blue bird* as [nok̃ -t̃\*u-pa-te], 뒷강에/tyt̃ -kaŋ̃ -e/ from *Hangangsu Taryeong* as [tyt̃ -k̃\*ʌŋ̃ -e].

All aspirations are closely related to the glottal consonant, ㅎ [h]. Whenever it is placed as the final consonant or the initial consonant, ㅎ [h] influences the previous or the following consonants. First, when ㅎ [h] or the consonant clusters containing ㅎ (ㄴㅎ or ㄹㅎ) is a final consonant, the following lax consonant (ㄱ [k], ㄷ [t], ㅈ [tɕ]) is pronounced as their aspirated consonants (ㅋ [kʰ], ㅌ [tʰ], ㅊ [tɕʰ]).

Table 5.2 Examples of the First Case in Aspiration

| Final consonants | Changes | Examples                            | Actual Pronunciation                     |
|------------------|---------|-------------------------------------|--|
| ㅎ                | ㄱ → ㅋ   | 놓고 /not <sup>˦</sup> -ko/           | [no- <b>k</b> ho]                        |
| ㄴㅎ<br>+<br>ㄷㅎ    | ㄷ → ㅌ   | 많다 /man <sup>˦</sup> -ta/           | [man <sup>˦</sup> - <b>t</b> ha]         |
| ㄹㅎ               | ㅅ → ㅆ   | 달지 /tal <sup>˦</sup> - <u>tei</u> / | [tal <sup>˦</sup> - <u><b>t</b>e</u> hi] |

Contrary to this, when the initial consonant ㅎ [h] follows after a certain final consonant (ㄱ, ㄷ, ㄴ, ㄹ, ㅅ, ㅆ), ㅎ [h] is aspirated to ㅋ [k<sup>h</sup>], ㅌ [t<sup>h</sup>], ㅍ [p<sup>h</sup>], or ㅊ [tɕ<sup>h</sup>] depending on the combination with a final consonant. For example, 노간죽하니/no-kan<sup>˦</sup>-teuk<sup>˦</sup>-**h**a-ni/ from *Gyeongbokkung Taryeong* tends to be pronounced as [no-kan<sup>˦</sup>-teuk<sup>˦</sup>-**k**a-ni].

## CHAPTER VI

### ROMANIZATION

#### Limits of Romanization

*Hangeul* is not familiar to the majority of people in the world unless they are Korean speakers studying the languages. For this reason, the Romanization system is perhaps a necessary tool to deliver Korean lyrics. Romanized Korean text in Korean choral music published in the United States alphabet is often problematic because the Romanized texts do not follow the specific rules of the Korean language.

Table 6.1 shows the various Romanizations in three current music publications of the same Korean words from *Arirang*, the most famous Korean folk song. As noted in the table, the Romanization written in the three publications seems quite arbitrary. Interestingly, none of the words for the Romanized Korean are matched among the three publications, and their guidelines are somehow different and also are incorrect. The next paragraphs discuss how the three publications provide incorrect information.

Table 6.1 Different Romanizations in Current Music Publications

|                      | Publisher's Name     | Neil A. Kjos Music Company <sup>164</sup> | Theodore Presser Company <sup>165</sup> | Alliance Music Publications <sup>166</sup> |
|----------------------|----------------------|---|---|--|
| Audio Example Number | Editor's Nationality | American                                  | Chinese                                 | Korean                                     |
|                      | Korean Text          | Romanization                              | Romanization                            | Romanization                               |
| 45                   | 아리랑                  | Ahreerahng                                | Arirang                                 | Ahrirhang                                  |
| 46                   | 아라리요                 | ahrahreeyoh                               | arario                                  | Ahrariyo                                   |
| 47                   | 고개로 (를)              | gogaeroh                                  | kogayro                                 | Gogae(rul)                                 |
| 48                   | 넘어간다                 | nawmahgahndah                             | naumaukanda                             | nomohgahndah                               |
| 49                   | 나를                   | nahrəl                                    | Nahrul                                  | Narul                                      |
| 50                   | 버리고                  | bawreego                                  | baurigo                                 | bohriigo                                   |
| 51                   | 가시는                  | gahsheenən                                | kahsinen                                | gashenun                                   |
| 52                   | 넘은                   | neemøn                                    | nimeun                                  | nimun                                      |
| 53                   | 십리도                  | sheemneedoh                               | shimrido                                | shimnido                                   |
| 54                   | 못가서                  | motegahsaw                                | motkasau                                | motgaso                                    |
| 55                   | 발병난다                 | bahlbyawngnahndah                         | palpyongnanda                           | bahlbyongnandah                            |

Neil A. Kjos Music Company used phonetic symbols, which are a combination of IPA symbols and Roman alphabet, to describe Korean text in their *Arirang* score. In the beginning of the piece, the instructions are given, but only four symbols are explained:

- r with one flip of the tongue
- æ as in gather
- ə as in choral, linen, or peu in French
- ø as in merge with an English accent without an American “r”<sup>167</sup>

Curiously, Neil A. Kjos Music Company presents the Korean vowel, ‘ㅡ [i]’ in two symbols, ə and ø: 나를 (nahrəl) and 넘은 (neemøn). The symbol [ø] is actually for the Korean vowel, ㅜ as the German vowel, ö. Furthermore, the indicated guideline for ‘ø’ is questionable, if not incorrect,

<sup>164</sup> Kenneth Jennings, *Arirang* (San Diego, CA: Neil A. Kjos Music Company, 1996).

<sup>165</sup> Chen Yi, *Arirang* (King of Prussia, PA: Theodore Presser Company, 1999).

<sup>166</sup> Shin-Hwa Park, *Arirang* (Houston, TX: Alliance Music Publication, Inc., 1995).

<sup>167</sup> Jennings, *Arirang*.

because the English word, ‘merge’ is pronounced and written in IPA as [mɜ:rdʒ]. Also, [ə], [ø], and [ɜ] are not symbols for the Romanization or the IPA symbols of the text.

Theodore Presser Company provides very brief guidelines for Romanization vowels and consonants in their *Arirang* arrangement as listed below:

#### VOWELS

a, ah = as in father

ae, ay = as in day

au = as in August

e = as in egg

eu = similar to French u or German ü

i = as in pizza

o = as in cold

oo = as in cool

u = as in mud

#### CONSONANTS

ch = as in cheese

si, shi = as in sheep

th = aspirated t

other consonants as in English<sup>168</sup>

From the list, several mistakes are found. The vowel of the word, ‘day [deɪ]’ is a diphthong, so ‘ay’ cannot be used for the Korean single vowel, ㅐ [ɛ]. The Korean vowel, ‘ㅡ [i]’ is transcribed in three different ways with three different vowels: 나를(nahrul), 가시는(kahsinen), and 님은(nimeun). According to the Presser guideline, the three words are pronounced as [narʌl], [kaʃinen], and [nimyn], but all the underlined the vowel symbols are incorrect according to the Korean language. In addition, a mistake is found in the text. Specifically, the Romanization, ‘arario’ is missing ‘y’ before ‘o.’ Here, the last vowel should be a [j]-diphthong, ㅟ [jo], and the Romanization should be changed to ‘arariyo’ for correct pronunciation.

---

<sup>168</sup> Yi, *Arirang*.

Alliance Music Publications does not indicate a specific guideline in their *Arirang* publication, but only the quote below is presented:

To facilitate learning, the text that appears in the music has been written out phonetically; used in conjunction with the pronunciation audio tape, singers should quickly assimilate the sounds of the Korean words.<sup>169</sup>

Interestingly enough, this publication uses ‘o’ for both Korean vowels, ㅓ [ʌ] and ㅜ [o], and the Korean vowel, ㅣ [i] is transcribed in both Roman letters: ‘i’ and ‘e’ without any indication as to why the two vowels were utilized. The ‘i’ is correct, but ‘e’ is incorrect.

As reviewed above, the three publications indicate the need for the Romanization of the Korean language that is consistent and follows the specific rules when the original *Hangeul* text is transcribed into the Roman alphabet. Some Korean lyrics only presented in the Roman alphabet would be difficult to recognize unless the lyrics are from well-known folksongs like *Arirang*. For instance, “Make A Joyful Noise,” published by Shadow Press, contains Korean text in the Romanization, shown as “Uhn dang-ee-yuh yuh-ho-wa-guee tsüh-guh-ee boo-rüh-dzee-oh-da.” Even Korean native speakers could not easily analogize the word and the meaning in order to recognize that it is the first verse from Psalm 100, “온 땅이여, 여호와께 즐거이 부를찌어다 [on t\*an̄-i-jʌ jʌ-ho-wa-k\*e teil-gʌ-i pu-ril-te\*i-ʌ-da].” (Audio example 56) If no one recognizes the exact sound and the meaning of the word from the Romanization, the word fails to be Korean, or any other language for that matter.

---

<sup>169</sup> Park, *Arirang*.

## The Official Romanization System of Korean

The Ministry of Culture and Tourism in the Republic of Korea devised the official Romanization system in 2000, but the system is not yet widely observed. Hong-sik Chon indicated several reasons for this issue in his research paper, “A Study on the Causes of Confusion and Inconsistency in Using Korean Romanization.” First, confusion arises among users when they regard the Romanization system as an English writing system. Second, the official Romanization system requires the users to understand the phonetic forms in which most of the Korean phonological changes are applied. Third, correlation between Roman letters and the Korean alphabet causes confusion among users when the Korean alphabet is transcribed into diversified and complicated Roman letters. Fourth, the regulation keeps no balance in delineating phonetic representations in terms of phonetic and phonemic transcription.<sup>170</sup>

Obviously, no absolute Romanization system exists to express the exact Korean pronunciation. As long as the official Romanization system is current, it should be used in music publications as well. The current Romanization of Korean follows the two basic principles of Romanization: Romanization is based on the standard Korean pronunciation, and symbols other than Roman letters are avoided to the greatest extent possible.<sup>171</sup> The National Institute of Korean Language describes the details of the Romanization system’s usage in Table 6.2 and 6.3.<sup>172</sup>

---

<sup>170</sup> Hongsik Chon, “A Study on the Causes of Confusion and Inconsistency in Using Korean Romanization,” *Journal of Language Sciences* 19, no. 2 (2012): 119–39.

<sup>171</sup> “National Institute of Korean Language,” accessed August 3, 2016, [http://korean.go.kr/front\\_eng/roman/roman\\_01.do](http://korean.go.kr/front_eng/roman/roman_01.do).

<sup>172</sup> Ibid.

Table 6.2 Consonants in the Official Romanization System

|                 | Consonants | Romanization |
|-----------------|------------|--------------|
| Plosive (stops) | ㄱ          | g, k         |
|                 | ㄲ          | kk           |
|                 | ㅋ          | k            |
|                 | ㄷ          | d, t         |
|                 | ㄸ          | tt           |
|                 | ㅌ          | t            |
|                 | ㅍ          | b, p         |
|                 | ㅑ          | pp           |
|                 | ㅍ          | p            |
| Affricates      | ㅈ          | j            |
|                 | ㅉ          | jj           |
|                 | ㅊ          | ch           |
| Fricatives      | ㅅ          | s            |
|                 | ㅆ          | ss           |
|                 | ㅎ          | h            |
| Nasals          | ㄴ          | n            |
|                 | ㅁ          | m            |
|                 | ㅇ          | ng           |
| Liquids         | ㄹ          | r, l         |

For several Korean consonants which have two corresponding Roman letters, instruction should be as follows: the sounds ㄱ[k], ㄷ[t], and ㅍ[p] are transcribed respectively as g, d, and b when they appear before a vowel; they are transcribed as k, t, and p when followed by another consonant or form the final sound of a word; ㄹ[r] is transcribed as r when followed by a vowel, and as l when followed by a consonant or when appearing at the end of a word; when ㄹ[r] is used consecutively such as ㄹㄹ is transcribed as two ‘l’s.

Table 6.3 Vowels in the Official Romanization System

|               | Vowels | Romanization |
|---------------|--------|--------------|
| Simple Vowels | ㅏ      | a            |
|               | ㅑ      | eo           |
|               | ㅓ      | o            |
|               | ㅕ      | u            |
|               | ㅡ      | eu           |
|               | ㅣ      | i            |
|               | ㅞ      | ae           |
|               | ㅟ      | e            |
|               | ㅠ      | oe           |
|               | ㅡ      | wi           |
| Diphthongs    | ㅑㅏ     | ya           |
|               | ㅑㅑ     | yeo          |
|               | ㅑㅓ     | yo           |
|               | ㅑㅕ     | yu           |
|               | ㅑㅞ     | yae          |
|               | ㅑㅟ     | ye           |
|               | ㅑㅠ     | wa           |
|               | ㅑㅡ     | wae          |
|               | ㅑㅢ     | wo           |
|               | ㅑㅣ     | we           |
|               | ㅑㅤ     | ui           |

The reason that some simple Korean vowels are romanized in two letters, is for indicating the closest pronunciation. ㅑ[y] romanized as [w]-diphthong because it is combination of ㅑ[u] (correspondence vowel of the labiovelar approximant [w]) and [i], and also Korean people usually pronounce as [w]-diphthong. For [j]-diphthongs, a letter, “y” is simply added in front of the corresponded simple letters. [w]-diphthongs are made in the same way, but ㅑ[wʌ] is romanized to “wo” instead of “weo” because there is no combination between ㅑ[u] and ㅓ[o] in

Korean.<sup>173</sup> Also, -[hi] is not romanized as “eui” but “ui” for reducing number of letters.<sup>174</sup> In addition, when Korean phonological changes affect the sound values, the results are romanized. For these reasons, the *Hangeul* text should be printed above the Romanization system to be easily recognized as the original text.

#### Suggested Romanization and IPA for Selected Korean Folksong Arrangements

Most Korean folk song arrangements published in the United States utilize their own Romanization of Korean texts. As discussed earlier, the Romanization system is not a sufficient tool to convey the correct Korean diction. Thus, texts of the selected Korean folksong arrangements will be evaluated and a better solution suggested by adding the *Hangeul* text and the IPA along with comments for the particular phonological changes and singing requirements. When there is the possibility of confusion in pronunciation, a hyphen (-) is used.

---

<sup>173</sup> Ku, *Understanding of Korean Phonology*, 135.

<sup>174</sup> Ibid.

“Doraji(도라지)” arranged by Yoojin Muhn  
Pavane Publishing, 2015<sup>175</sup>  
(Audio example 57)

|                                |   |                       |                  |                        |
|--------------------------------|---|-----------------------|------------------|------------------------|
| <b>Roman text on the score</b> | <b>Doraji,</b>  | <b>doraji,</b>        | <b>bec</b>       | <b>doraji,</b>         |
| Official Romanization          | Doraji,   | doraji,               | baek             | doraji,                |
| IPA                            | [toradei,   | toradei,              | pɛk <sup>ㄱ</sup> | toradei]               |
| <i>Hangeul</i>                 | 도라지,  | 도라지,                  | 백                | 도라지,                   |
| Word-to-word translation       | bellflower root,  |                       | white            | bellflower root        |
| Translation                    | Bellflower root, bellflower root, white bell flower root, |                       |                  |                        |
|                                |   |                       |                  |                        |
| <b>Roman text on the score</b> | <b>sim sim</b>  | <b>sanchune</b>       | <b>bec</b>       | <b>doraji,</b>         |
| Official Romanization          | sim sim   | sancheone             | baek             | doraji,                |
| IPA                            | [ɛim ɛim  | santɕʌne              | pɛk <sup>ㄱ</sup> | doradei]               |
| <i>Hangeul</i>                 | 심 심   | 산천에                   | 백                | 도라지,                   |
| Word-to-word translation       | In the deep mountains and streams, white bellflower root, |                       |                  |                        |
|                                |   |                       |                  |                        |
| <b>Roman text on the score</b> | <b>Han</b>  | <b>doo</b>            | <b>ppooriman</b> | <b>ke-uh-do</b>        |
| Official Romanization          | han   | du                    | ppuri-man        | ke-eo-do               |
| IPA                            | [han  | du                    | p*uri-man        | k <sup>h</sup> e-ʌ-do] |
| <i>Hangeul</i>                 | 한   | 두                     | 뿌리 만             | 캐어도                    |
| Word-to-word translation       | one   | two                   | roots only       | lifted                 |
| Translation                    | Although only one or two roots are lifted                 |                       |                  |                        |
|                                |   |                       |                  |                        |
| <b>Roman text on the score</b> | <b>debagooni</b>  | <b>chul chul chul</b> | <b>da</b>        | <b>numnunda.</b>       |
| Official Romanization          | daebaguni   | cheol cheol cheol     | da               | neomneonda.            |
| IPA                            | [tɛbaguni   | tɕʌl tɕʌl tɕʌl        | ta               | nʌmninda]              |
| <i>Hangeul</i>                 | 대바구니  | 철 철 철                 | 다                | 넘는다.                   |
| Word-to-word translation       | bamboo basket to the brim                                 | all                   | be packed        |                        |
| Translation                    | It's already packed in the bamboo basket to the brim.     |                       |                  |                        |
|                                |   |                       |                  |                        |
| <b>Roman text on the score</b> | <b>eheyo!</b>   | <b>eheyo!</b>         | <b>eheyo!</b>    |                        |
| Official Romanization          | e-he-yo,  | e-he-yo,              | e-he-yo          |                        |
| IPA                            | [e-he-jo,   | e-he-jo,              | e-he-jo]         |                        |
| <i>Hangeul</i>                 | 에 헤요,   | 에 헤요,                 | 에 헤요             |                        |
| Translation                    | ey-yoh hey!   |                       |                  |                        |
|                                |   |                       |                  |                        |
| <b>Roman text on the score</b> | <b>e-yala</b>   | <b>nanda</b>          | <b>jihwaja</b>   | <b>jota</b>            |
| Official Romanization          | e-ya-ra   | nanda,                | jihawja          | jota                   |
| IPA                            | [e-ja-ra  | nanda                 | tɕiɥwadea        | tɕota]                 |
| <i>Hangeul</i>                 | 에야라   | 난다,                   | 지화자              | 좋다                     |
| Word-to-word translation       | ey-yah,   | fly,                  | (a shout)        | so good!               |
| Translation                    | ey-yah, it feels so good as if I could fly!               |                       |                  |                        |

<sup>175</sup> Yoojin Muhn, *Doraji*, SSA, accompanied (San Pedro, CA: Pavane Publishing, 2015).

|                                |                                |                         |           |                 |
|--------------------------------|--------------------------------|-------------------------|-----------|-----------------|
| <b>Roman text on the score</b> | <b>ulSigoo</b>                 | <b>jokoona</b>          | <b>ne</b> | <b>sarang a</b> |
| Official Romanization          | eol-ssi-gu                     | jokuna                  | nae       | sa-rang-a       |
| IPA                            | [ʌl-ɛ* <i>i</i> -gu            | tɕo-k <sup>h</sup> u-na | nɛ        | sa-ran-a]       |
| <i>Hangeul</i>                 | 얼씨구                            | 죡구나                     | 내         | 사랑아             |
| Word-to-word translation       | Hurray!                        | so good                 | my        | love            |
| Translation                    | Hurray! It's so good, my love. |                         |           |                 |

“Blue Bird (새야 새야)” arranged by Jungsun Lee  
 Santa Barbara Music Publishing, Inc., 2011<sup>176</sup>  
 (Audio example 58)

|                                |                          |                |                             |
|--------------------------------|--------------------------|----------------|-----------------------------|
| <b>Roman text on the score</b> | <b>Seh-yah</b>           | <b>seh-yah</b> | <b>pah-rahng-seh-yah,</b>   |
| Official Romanization          | Sae-ya,                  | sae-ya,        | pa-rang-sae-ya,             |
| IPA                            | [sɛja                    | sɛja           | p <sup>h</sup> a-ran-sɛ-ja] |
| <i>Hangeul</i>                 | 새야,                      | 새야,            | 파랑새야,                       |
| Word-to-word translation       | bird,                    | bird,          | blue bird,                  |
| Translation                    | Bird, bird, a blue bird, |                |                             |

|                                |  |                         |                         |
|--------------------------------|--|-------------------------|-------------------------|
| <b>Roman text on the score</b> | <b>nohk-doo-bah-teh</b>                  | <b>ahn-jee-mah-rah.</b> |                         |
| Official Romanization          | nok-du-                                  | ba-te                   | an-ji-ma-ra.            |
| IPA                            | [nok <sup>ɰ</sup> -t* <i>u</i> -         | ba <sup>th</sup> e      | an-tɕ* <i>i</i> -ma-ra] |
| <i>Hangeul</i>                 | 녹두                                       | 밭에                      | 앉지마라.                   |
| Word-to-word translation       | mung beans                               | at field                | don't sit               |
| Translation                    | Don't go sitting on the mung bean field. |                         |                         |

|                                |  |                                |
|--------------------------------|--|--------------------------------|
| <b>Roman text on the score</b> | <b>Nohk-doo-goh-chee</b>                             | <b>duh-ruh-jee-myuhn,</b>      |
| Official Romanization          | nok-du-ggo-chi                                       | tteo-reo-ji-myeon,             |
| IPA                            | [nok <sup>ɰ</sup> -t* <i>u</i> -k*o-tɕ <sup>hi</sup> | t* <sup>h</sup> ʌ-rʌ-dɛi-mjan] |
| <i>Hangeul</i>                 | 녹두꽃이   | 떨어지면,                          |
| Word-to-word translation       | mung bean flower                                     | if it falls,                   |
| Translation                    | If the mung bean flowers fall from the stem,         |                                |

|                                |   |                          |               |
|--------------------------------|---|--------------------------|---------------|
| <b>Roman text on the score</b> | <b>chuhng-poh-jahng-soo</b>                       | <b>ool-goh-gahn-day.</b> |               |
| Official Romanization          | cheong-po-  | jang-su                  | ul-go-gan-da. |
| IPA                            | [tɕ <sup>h</sup> ʌŋ-p <sup>h</sup> o-             | dɛan-su                  | ul-go-gan-da] |
| <i>Hangeul</i>                 | 청포  | 장수                       | 울고간다.         |
| Word-to-word translation       | green-lentil jelly                                | merchant                 | go in tears   |
| Translation                    | the green-lentil jelly merchant will go in tears. |                          |               |

<sup>176</sup> Jungsun Lee, *Blue Bird*, SSA with piano (Santa Barbara, CA: Santa Barbara Music Publishing, Inc., 2011).

“Hangangsu Taryeong (한강수 타령)” arranged by Jisoo Kim  
 Earthsongs, 2007<sup>177</sup>  
 (Audio example 59)

I. (Verse 1 from the original folksong)

|                                |  |              |                |             |
|--------------------------------|--|--------------|----------------|-------------|
| <b>Roman text on the score</b> | <b>Hangangsuya</b>                         | <b>Kipgo</b> | <b>margeun</b> | <b>mure</b> |
| Official Romanization          | Hangangsuya                                | gipgo        | malgeun        | mure        |
| IPA                            | [han-kaŋ-su-ja                             | kip -go      | mal-gin        | mure]       |
| <i>Hangeul</i>                 | 한강수야                                       | 깊고           | 맑은             | 물에          |
| Word-to-word translation       | Han river                                  | deep         | clear          | at water    |
| Translation                    | At Han river which is deep and clear water |              |                |             |

|                                |   |                |               |                 |                |
|--------------------------------|---|----------------|---------------|-----------------|----------------|
| <b>Roman text on the score</b> | <b>susangseon</b>                       | <b>tagoseo</b> | <b>Eruhwa</b> | <b>baennori</b> | <b>gajanda</b> |
| Official Romanization          | susangseon                              | tagoseo        | eruhwa        | baennori        | gajanda        |
| IPA                            | [su-saŋ-sʌn                             | ta-go-sʌ       | e-ru-hwa      | ben-no-ri       | kadean-da]     |
| <i>Hangeul</i>                 | 수상선                                     | 타고서            | 에루화           | 배놀이             | 가잔다.           |
| Word-to-word translation       | surface boat                            | riding         |               | boating         | let's go       |
| Translation                    | Let's go boating riding a surface boat. |                |               |                 |                |

Refrain

|                                |            |            |            |            |              |                |
|--------------------------------|------------|------------|------------|------------|--------------|----------------|
| <b>Roman text on the score</b> | <b>Ehe</b> | <b>ehe</b> | <b>ehe</b> | <b>ehe</b> | <b>eheyo</b> | <b>eoheoya</b> |
| Official Romanization          | ehe        | ehe        | ehe        | ehe        | eheyo        | eoheoya        |
| IPA                            | [ehe       | ehe        | ehe        | ehe        | ehejo        | ʌ-hʌ-ja]       |
| <i>Hangeul</i>                 | 에헤         | 에헤         | 에헤         | 에헤         | 에헤요          | 어허야            |
| Word-to-word translation       | ehe        | ehe        | ehe        | ehe        | eheyo        | eoheoya        |

|                                |                   |                         |             |                  |
|--------------------------------|-------------------|-------------------------|-------------|------------------|
| <b>Roman text on the score</b> | <b>Eor-sam-ma</b> | <b>dung ge-di-eo-ra</b> | <b>nae-</b> | <b>sa-rang-a</b> |
| Official Romanization          | Eeol-ssam-ma      | dung-ge-di-eo-ra        | nae         | sa-rang-a        |
| IPA                            | [ʌl-s*am-ma       | tun-ge-di-ʌ-ra          | nɛ          | sa-raŋ-a]        |
| <i>Hangeul</i>                 | 얼쌘마               | 둥게 디어라                  | 내           | 사랑아              |
| Word-to-word translation       | (a joyful shout)  |                         | my          | love             |

II. (Verse 6 from the original folksong)

|                                |                       |              |                 |
|--------------------------------|-----------------------|--------------|-----------------|
| <b>Roman text on the score</b> | <b>Ap-gang-e</b>      | <b>tteun</b> | <b>bae-neun</b> |
| Official Romanization          | Ap-gang-e             | tteun        | bae-neun        |
| IPA                            | [ap -kaŋ-e            | t*in         | bɛ-nin          |
| <i>Hangeul</i>                 | 앞강에                   | 뜬            | 배는              |
| Word-to-word translation       | at front river        | floated      | a boat          |
| Translation                    | In front of me drifts |              |                 |

<sup>177</sup> Jisoo Kim, *Three Korean Folk Songs*, SATB (Corvallis, OR: Earthsongs, 2007).

|                                |                                |                       |
|--------------------------------|--------------------------------|-----------------------|
| <b>Roman text on the score</b> | <b>nag-shi-jil-</b>            | <b>keo-ru-yo</b>      |
| Official Romanization          | nak-si-jil                     | geo-ru-yo             |
| IPA                            | [nak ɳ̚ɕ*ɪ-dɕil]               | kʌ-ru-jo]             |
| <i>Hangeul</i>                 | 낙시질                            | 거루요                   |
| Word-to-word translation       | fishing                        | a boat without a sail |
| Translation                    | a fishing boat without a sail. |                       |

|                                |                        |              |                 |
|--------------------------------|------------------------|--------------|-----------------|
| <b>Roman text on the score</b> | <b>Dwit-gang-e</b>     | <b>tteun</b> | <b>bae-neun</b> |
| Official Romanization          | Dwit-gang-e            | tteun        | bae-neun        |
| IPA                            | [tyt ɳ̚kaŋ-e]          | t*in         | bɛ-nin]         |
| <i>Hangeul</i>                 | 뒷강에                    | 뜬            | 배는              |
| Word-to-word translation       | at back river          | floated      | a boat          |
| Translation                    | behind me sails a boat |              |                 |

|                                |                             |                   |
|--------------------------------|-----------------------------|-------------------|
| <b>Roman text on the score</b> | <b>nim-shil-leo-ka-neun</b> | <b>bae-ran-da</b> |
| Official Romanization          | nim-sil-leo ga-neun         | bae-ran-da        |
| IPA                            | [nim-sil-lʌ ka-nin]         | bɛ-ran-da]        |
| <i>Hangeul</i>                 | 님실러 가는                      | 배란다.              |
| Word-to-word translation       | to take my love             | a boat            |
| Translation                    | to bring home my love.      |                   |

“Gyeongbokkung Taryeong (경복궁 타령)” arranged by Jisoo Kim  
 Earthsongs, 2007<sup>178</sup>  
 (Audio example 60)

I. (Verse 1 from the original folksong)

|                                |   |                |                    |               |
|--------------------------------|---|----------------|--------------------|---------------|
| <b>Roman text on the score</b> | <b>Nam mun-eul</b>                            | <b>yeol-go</b> | <b>Hwa-ru-reul</b> | <b>chi-ni</b> |
| Official Romanization          | Nam-mu-neul                                   | yeol-go        | pa-ru-reul         | chi-ni        |
| IPA                            | [nam-mu-nil]                                  | jʌl-ko         | pʰa-ru-ril         | tɕʰi-ni]      |
| <i>Hangeul</i>                 | 남문을   | 열고             | 파루를                | 치니            |
| Word-to-word translation       | the South Gate                                | open           | morning bell       | ring          |
| Translation                    | The South Gate opens, the morning bell rings, |                |                    |               |

|                                |                                     |                     |
|--------------------------------|-------------------------------------|---------------------|
| <b>Roman text on the score</b> | <b>gye-myeong-san-cheon-i</b>       | <b>bar-ga-on-da</b> |
| Official Romanization          | gye-myeong san-cheo-ni              | bal-ga-on-da        |
| IPA                            | [kye-myʌŋ san-tɕʰɛn-ni]             | pal-ka-on-da]       |
| <i>Hangeul</i>                 | 계명 산천이                              | 밝아온다.               |
| Word-to-word translation       | all the nature in the early morning | dawn                |
| Translation                    | all the world dawns.                |                     |

<sup>178</sup> Ibid.

Refrain

|                                |          |                  |                   |
|--------------------------------|----------|------------------|-------------------|
| <b>Roman text on the score</b> | <b>E</b> | <b>E-he-i-ya</b> | <b>E-he-eo-ya</b> |
| Official Romanization          | E        | E-he-i-ya        | E-he-eo-ya        |
| IPA                            | [e       | e-he-i-ja        | e-he-i-ja]        |
| <i>Hangeul</i>                 | 에        | 에 헤이야            | 에 헤어야             |
| Word-to-word translation       | e        | ehe-iya          | ehe-eoya          |

|                                |                                    |                  |                     |
|--------------------------------|------------------------------------|------------------|---------------------|
| <b>Roman text on the score</b> | <b>Eol-leol-leol</b>               | <b>geo-ri-go</b> | <b>bang-a-ro-da</b> |
| Official Romanization          | Eol-leol-leol                      | geo-ri-go        | bang-a-ro-da        |
| IPA                            | [ɔl-lɔl-lɔl                        | kɾ-ri-go         | pang-a-ro-da]       |
| <i>Hangeul</i>                 | 얼럴럴                                | 거리고              | 방아로다.               |
| Word-to-word translation       | Eolleolleol                        | singing          | grind away          |
| Translation                    | we grind away singing Eolleolleol! |                  |                     |

II. (Verse 6 from the original folksong)

|                                |                                 |                    |                         |
|--------------------------------|---------------------------------|--------------------|-------------------------|
| <b>Roman text on the score</b> | <b>Wae-cheol-jjuk</b>           | <b>jin-dal-hwa</b> | <b>no-gan-juk ha-ni</b> |
| Official Romanization          | wae-cheol-jjuk                  | jin-dal-hwa        | no-gan-juk-ha-ni        |
| IPA                            | [wɛ-tɕʰɔl-tɕ*ukʷ                | tɕin-dal-hwa       | no-gan-deukʷka-ni]      |
| <i>Hangeul</i>                 | 왜철쭉                             | 진달화                | 노간죽하니                   |
| Word-to-word translation       | royal azalea                    | azalea             | blossom                 |
| Translation                    | Because azaleas are all blossom |                    |                         |

|                                |                             |                         |
|--------------------------------|-----------------------------|-------------------------|
| <b>Roman text on the score</b> | <b>Maen-deu-ra-mi</b>       | <b>bong-seon-hwa-ga</b> |
| Official Romanization          | Maen-deu-ra-mi              | bong-seon-hwa-ga        |
| IPA                            | [mɛn-di-ra-mi               | poŋ-sɔn-hwa-ga]         |
| <i>Hangeul</i>                 | 맨드라미                        | 봉선화가                    |
| Word-to-word translation       | cockscorb                   | garden balsam           |
| Translation                    | cockscorb and garden balsam |                         |

|                                |                               |
|--------------------------------|-------------------------------|
| <b>Roman text on the score</b> | <b>yeong-san-hong-i-ro-da</b> |
| Official Romanization          | yeong-san-hong-i-ro-da        |
| IPA                            | [jɛŋ-san-hoŋ-i-ro-da]         |
| <i>Hangeul</i>                 | 영산홍이로다.                       |
| Word-to-word translation       | become azaleas                |
| Translation                    | look azaleas.                 |

III. (Verse 5 from the original folksong)

|                                |  |                      |
|--------------------------------|--|----------------------|
| <b>Roman text on the score</b> | <b>Nam san-ha-go</b>                     | <b>Shib-i-bong-e</b> |
| Official Romanization          | Nam-san-ha-go                            | Si-bi-bong-e         |
| IPA                            | [nam-san-ha-go                           | ɕi-bi-boŋ-e]         |
| <i>Hangeul</i>                 | 남산하고                                     | 십이봉에                 |
| Word-to-word translation       | Nam mountain                             | the twelve peaks     |
| Translation                    | To the twelve peaks in the Nam mountain, |                      |

|                                |                 |                    |
|--------------------------------|-----------------|--------------------|
| <b>Roman text on the score</b> | <b>O-jak</b>    | <b>han-ssang-i</b> |
| Official Romanization          | O-jak           | han-ssang-i        |
| IPA                            | [o-tɕak̚]       | han s*an̚-i]       |
| <i>Hangeul</i>                 | 오작              | 한 쌍이               |
| Word-to-word translation       | crow and magpie | a pair of          |
| Translation                    | a pair of crows |                    |

|                                |                  |                      |
|--------------------------------|------------------|----------------------|
| <b>Roman text on the score</b> | <b>hweo-reol</b> | <b>la-ra-deun-da</b> |
| Official Romanization          | hweol-hweol      | na-ra-deun-da        |
| IPA                            | [hwʌl-hwʌl]      | na-ra-din-da]        |
| <i>Hangeul</i>                 | 훤훤               | 날아든다.                |
| Word-to-word translation       | (a mimetic word) | fly                  |
| Translation                    | flies            |                      |

IV. (Verse 7 from the original folksong)

|                                |                                      |                 |                      |
|--------------------------------|--------------------------------------|-----------------|----------------------|
| <b>Roman text on the score</b> | <b>U-gwang-kung kwang</b>            | <b>so-ri-ga</b> | <b>wen-so-ri-nya</b> |
| Official Romanization          | u-gwang-kung-kwang                   | so-ri-ga        | wen-so-ri-nya        |
| IPA                            | [u-gwan̚-kʰun̚-kʰwan̚]               | so-ri-ga        | wen-so-ri-nja]       |
| <i>Hangeul</i>                 | 우광쿵광                                 | 소리가             | 웬 소리냐                |
| Word-to-word translation       | (onomatopoeia)                       | sound           | what sound?          |
| Translation                    | Ugwangkungkwang! What is this sound? |                 |                      |

|                                |                                   |                      |
|--------------------------------|-----------------------------------|----------------------|
| <b>Roman text on the score</b> | <b>Gyeong-bok-kung</b>            | <b>jin-neu-ra-go</b> |
| Official Romanization          | Gyeong-bok-gung                   | jin-neu-ra-go        |
| IPA                            | [kʲan̚-bok̚-gun̚]                 | tein-ni-ra-go]       |
| <i>Hangeul</i>                 | 경복궁                               | 짓느라고                 |
| Word-to-word translation       | Gyeongbokgung palace              | to build             |
| Translation                    | to build the Gyeongbokgung Palace |                      |

|                                |                           |                  |                 |
|--------------------------------|---------------------------|------------------|-----------------|
| <b>Roman text on the score</b> | <b>Hö-bang-a</b>          | <b>jjin-neun</b> | <b>so-ri-da</b> |
| Official Romanization          | hoe-bang-a                | jjin-neun        | so-ri-da        |
| IPA                            | [hø-ban̚-a                | tɕ*in-nin        | so-ri-da]       |
| <i>Hangeul</i>                 | 회방아                       | 짙는               | 소리다             |
| Word-to-word translation       | milling                   | beat             | sound           |
| Translation                    | It's the sound of milling |                  |                 |

## CHAPTER VII

### CONCLUSION

As multi-cultural choral music has become more popular in the past ten years, American publishers are more interested in publishing ethnic folksong arrangements from Africa, Asia, India, and Latin America. However, Korean folksong arrangements occupy a small number of publications in the music market, and are mostly lacking in compositional merit with little attempt to address the accurate and authentic pronunciation of the Korean texts. Some arrangements are often inadequate because of the composers' lack of understanding of the Korean language, its pronunciation, and context. Unfortunately, there has been no codification of the pronunciation of the Korean language that is understandable by non-Korean choral conductors. This means the better-crafted choral music in the Korean canon has not been published yet, and is therefore, not known or performed by many non-Korean choirs. The perplexing problem of teaching and performing Korean texts centers around two basic problems: the manner in which Korean texts are printed in choral scores and inconsistency in Korean instructive guides or diction manuals.

After an exhaustive review of Korean choral music publications by American music publishers, the author found that the majority of the publications contain Korean text that only has been presented through Romanization. Romanization seems to be a convenient method to describe the sounds of unfamiliar languages, but Romanized text is often pronounced differently by readers depending on their language backgrounds. To convey the original Korean text, the texts should be printed in *Hangeul*, the official Korean writing system, above the text's

Romanization in every score. This purpose-built writing system was made for transcribing all human speech sounds and for reflecting the mechanism of sound in human speech organs. Therefore, this document utilizes the invention principles of the Korean alphabet from the original guidebook for the alphabet, *Hunminjeongeum* to introduce the symbols' shapes and sounds.

Although *Hangeul* is known as an easy-to-read script, choral musicians may not spend their time learning how to read Korean symbols. To help them, *Hangeul* needs to be transcribed into both a Romanized form and the IPA symbols in every publication. (Both *Hangeul* and Romanization printed above the score, and the IPA in an appendix) However, the current publications follow their own ways to romanize Korean lyrics, and existing Korean diction resources show a plethora of different IPA symbols without explaining why the specific IPA symbols were used. To address these problems, this study has focused on merging multiple Romanization systems and IPA symbols into one, for better Korean choral music publications and effective use in choral rehearsals. For Romanization, this document introduces the official Romanization system currently in existence in Korea. As this Romanization system is the most updated one, publishers should apply it for transcribing *Hangeul* text. For IPA symbols, this document contributes significantly to finding the most appropriate IPA symbols, which are matched to the Korean alphabet based on their phonetic features. As a result, the combination of Romanization and IPA transcriptions will enhance the performance of Korean choral music with a more correct pronunciation.

Normally, Korean phonological changes should be applied when the text is transcribed to Romanization or IPA, but sometimes applying these changes is not necessary in singing because listeners could become confused as to which words are being sung. In Jin-Hee Kim's study, "A

Study for Diction of Korean Popular Song,” Kim claims that delivery of text became ambiguous when singers pronounced Korean lyrics merely following the pronunciation rules as the National Institute of Korean Language suggested.<sup>179</sup> Therefore, publishers should deeply consider what rules to apply or not apply when they romanize the Korean text or transcribe the sounds to IPA symbols.

This research was motivated by the need to share quality Korean choral music with a broader audience. Although many contemporary Korean composers write excellent choral music, many of their pieces are not yet published or performed by non-Korean choirs. This study serves as groundwork for the future publication of a better-designed Korean diction manual, which will lead to better publications of Korean choral music, and to improving performances of Korean diction by non-Korean choral musicians.

---

<sup>179</sup> Jin-Hee Kim, “A Study for Diction in Korean Popular Song” (M.M. dissertation, Dong-A University, 2010).

## REFERENCES

- “2013-133 History of Writing System.” Accessed March 31, 2016.  
<http://dmoo.tistory.com/entry/2013133-문자의-역사>.
- “Approximant -- Britannica Online Encyclopedia.” Accessed September 19, 2015.  
<http://academic.eb.com.libdata.lib.ua.edu/EBchecked/topic/30771/approximant>.
- “Approximant Consonant.” *Wikipedia, the Free Encyclopedia*, September 9, 2015.  
[https://en.wikipedia.org/w/index.php?title=Approximant\\_consonant&oldid=680257520](https://en.wikipedia.org/w/index.php?title=Approximant_consonant&oldid=680257520).
- “Articulation, N.” *OED Online*. Oxford University Press. Accessed September 25, 2015.  
<http://www.oed.com/view/Entry/11196>.
- Ashby, Michael, and John A. Maidment. *Introducing Phonetic Science*. Cambridge Introductions to Language and Linguistics. Cambridge ; New York: Cambridge University Press, 2005.
- Ban, Jaewon, and Jungyun Huh. *Hangeul Invention Principles and Reuse of Old Characters*. Seoul: Younngak, 2007.
- Barry, William J., and Jürgen Trouvain. “Do We Need a Symbol for a Central Open Vowel?” *Journal of the International Phonetic Association* 38, no. 3 (2008): 349–457.
- “Cardinal Vowels.” *Wikipedia, the Free Encyclopedia*, July 13, 2016.  
[https://en.wikipedia.org/w/index.php?title=Cardinal\\_vowels&oldid=729567865](https://en.wikipedia.org/w/index.php?title=Cardinal_vowels&oldid=729567865).
- Cha, Yeong Hoi. “An Analytical Study of Korean-Based Sacred Choral Music: Korean Traditional Music and Its Relation to Fourteen Selected Korean Sacred Choral Works.” D.M.A. dissertation, University of Washington, 2002.
- Choh, Sun Ug. “A Study of Selected Choral Compositions Based on Korean Traditional Children’s Songs by Jung Sun Park.” D.M.A. document, University of Arizona, 2007.
- Choi, Kyoungbong. *The Birth of Our Language: Fifty Years History of Making the First Korean Dictionary*. Seoul: Cum libro, 2005.
- Choi, Kyoungbong, Junggon Si, and Youngjun Pak. *Everything You Should Know About Hangeul*. Seoul: Cum libro, 2008.
- Choi, Young-ae. *What Is the Chinese Language?* Seoul, Korea: Tongnamu, 1998.

- Chon, Hongsik. "A Study on the Causes of Confusion and Inconsistency in Using Korean Romanization." *Journal of Language Sciences* 19, no. 2 (2012): 119–39.
- Choo, Miho, and William D. O'Grady. *The Sounds of Korean : A Pronunciation Guide*. Honolulu : University of Hawai'i Press, 2003.
- Davenport, Mike, and S. J. Hannahs. *Introducing Phonetics and Phonology*. Second edition. London: Hodder Arnold, 2005.
- DeAth, Leslie. "Linguistic Lingo and Lyric Diction I - The Phoneme." *Journal of Singing - The Official Journal of the National Association of Teachers of Singing* 67, no. 2 (November 2010): 187–93.
- "Diphthong -- Britannica Online Encyclopedia." Accessed September 4, 2015. <http://academic.eb.com.libdata.lib.ua.edu/EBchecked/topic/164541/diphthong>.
- "Donggukjeongun." Accessed March 31, 2016. <http://blog.naver.com/nixodus/220268040566>.
- "extIPA SYMBOLS FOR DISORDERED SPEECH - extIPAChart2008.pdf." Accessed April 21, 2016. <https://www.internationalphoneticassociation.org/sites/default/files/extIPAChart2008.pdf>.
- "File:PlaceOfArticulation.svg." *Wikipedia, the Free Encyclopedia*. Accessed September 24, 2015. <https://en.wikipedia.org/wiki/File:PlaceOfArticulation.svg>.
- Ha, Jae-Song. "A Conductor's Guide to Selected Sacred Choral Works Composed between 1980 and 2005 by Korean Composers." D.M.A. dissertation, The Southern Baptist Theological Seminary, 2006.
- Hahn, Jaeyoung, Jungsoon Choi, Hoyoung Lee, Jiyoung Park, Kangmin Lee, Hyeonyong Cho, Keumdan Choi, and Sunung Lee. *Teaching Korean Pronunciation*. Vol. 1. Korean Language Education Series. Seoul, Korea: Hollym Corp., Publishers, 2003.
- Hangeul Story That We Don't Know Yet*. Accessed March 23, 2016. <https://www.youtube.com/watch?v=ZxuG-l3yPhQ>.
- "Hunminjeongeum Eonhaebon." Accessed March 31, 2016. <http://blog.naver.com/protips/220118783404>.
- "Hunminjeongeum Haeryebon (National Treasure No. 70)." Accessed March 31, 2016. <http://blog.naver.com/graphai/140205754682>.
- "Interview of Seol-Ong Kim about Hunminjeongeum Haerye." *TBS TV Bookstore, "Booksori."* YouTube. Accessed March 31, 2016. <https://www.youtube.com/watch?v=KC3FSrUeAzw>.

- “IPA Online - Consonants (Pulmonic).” Accessed September 21, 2015.  
<http://teaching.ncl.ac.uk/ipa/consonants-pulmonic.html#>.
- “IPA Vowel Names and Description.pdf.” Accessed September 12, 2015.  
<http://www.indiana.edu/~1541/week%203/IPA%20Vowel%20Names%20and%20Description.pdf>.
- “IPAchart2005.pdf.” Accessed March 11, 2016.  
<http://teaching.ncl.ac.uk/ipa/images/IPAchart2005.pdf>.
- Jennings, Kenneth. *Arirang*. San Diego, CA: Neil A. Kjos Music Company, 1996.
- Karna, Duane R., and Sue Goodenow. “The Use of the International Phonetic Alphabet in the Choral Rehearsal.” In *The Use of the International Phonetic Alphabet in the Choral Rehearsal*, edited by Duane R. Karna, 1–9. Lanham, Md: Scarecrow Press, 2010.
- Kim, Hun-Tae. “A Teaching Method of Korean Pronunciation for Italian Native Speakers.” *Studies in Linguistics* 21 (December 2011): 73–94.
- Kim, Hyo-Suk. “An Experimental Study of Korean Intervocalic Lax and Tense Stop Consonants.” *Journal of the Korean Society of Speech Sciences*, no. 33–34 (1997): 1–10.
- Kim, Ji-Hyung. “An Education Plan for Korean Alphabet and Pronunciation Using the Invention Principle of Hunminjeongeum.” *Korean Language and Literature* 147 (December 2007): 221–58.
- Kim, Ji-Hyung, and Min-Woo Lee. *Understanding of Korean Linguistics*. Seoul, Korea: UCL Inc., 2015.
- Kim, Jin-Hee. “A Study for Diction in Korean Popular Song.” M.M. dissertation, Dong-A University, 2010.
- Kim, Jin-ho. *An Introduction to Korean Linguistics as a Foreign Language*. Seoul: Pakijeong, 2008.
- Kim, Jisoo. *Three Korean Folk Songs*. SATB. Corvallis, OR: Earthsongs, 2007.
- Kim, Kang Mi. “A Study of Korean Art Songs since 1900: Focusing on Pieces by Dong-Jin Kim, Heung-Yeol Lee, and Isang Yun.” D.M.A. dissertation, University of Washington, 2003.
- Kim, Seul-ong. *Hunminjeongeum Haeryebon*. Paju, Kyounggi-do: Kyobomungo, 2015.
- Kim, Yohan. “A Korean Art Song Anthology.” D.M.A. dissertation, The University of Wisconsin - Madison, 2014.
- Kim, Younguk. *Hangeul: The Best Alphabet Invented by Sejong*. Seoul: Ludens, 2007.

- “King Sejong the Great.” Accessed March 31, 2016. <http://smilecap.tistory.com/570>.
- Ku, Hyeon-ok. *Understanding of Korean Phonology*. Revised. Seoul, Korea: Hankookmunhwasa, 2010.
- Lee, Jungsun. *Blue Bird*. SSA with piano. Santa Barbara, CA: Santa Barbara Music Publishing, Inc., 2011.
- Lee, Ki-Moon. “The Inventor of the Korean Alphabet.” In *The Korean Alphabet: Its History and Structure*, edited by Young-Key Kim-Renaud, 11–30. Honolulu: University of Hawai’i Press, 1997.
- Lee, Soojeong. “Korean Diction and IPA.” In *The Use of the International Phonetic Alphabet in the Choral Rehearsal*, edited by Duane R. Karna, 141–51. Lanham, Md: Scarecrow Press, 2010.
- Lindsey, Geoff. “The Vowel Space.” *English Speech Services*. Accessed August 15, 2015. <http://englishspeechservices.com/blog/the-vowel-space/>.
- Marsh Chase, Shannon Maxine. “Secondary Choral Music Educators’ Training, Experience and Current Teaching Practice Concerning Foreign Language Diction and World Musics Repertoire.” Ph.D. Dissertation, The Florida State University, 2002.
- Miller, Richard. *The Structure of Singing: System and Art in Vocal Technique*. Boston: Schirmer, 1996.
- “Mod 3 Lesson 3.5.2 Consonants: Place of Articulation.” Accessed September 25, 2015. [http://emedia.leeward.hawaii.edu/hurley/Ling102web/mod3\\_speaking/3mod3.5.2\\_place.htm](http://emedia.leeward.hawaii.edu/hurley/Ling102web/mod3_speaking/3mod3.5.2_place.htm).
- Moriarty, John. *Diction*. Boston, MA: ECS Publishing, 1975.
- Muhn, Yoojin. *Doraji*. SSA, Accompanied. San Pedro, CA: Pavane Publishing, 2015.
- “National Institute of Korean Language.” Accessed August 3, 2016. [http://korean.go.kr/front\\_eng/roman/roman\\_01.do](http://korean.go.kr/front_eng/roman/roman_01.do).
- “OCAPLUS > 약보자료실 > 아리랑.” Accessed January 26, 2017. [http://www.ocaplus.net/bbs/view.php?&bbs\\_id=bbs7&page=2&doc\\_num=42](http://www.ocaplus.net/bbs/view.php?&bbs_id=bbs7&page=2&doc_num=42).
- Oh, Kwang-Keun. “A Study on the Suggestion for the Phonetic Symbols of Korean Alphabets.” *Journal of Bangyo Language and Literature* 32 (2012): 173–202.
- . “The Present Conditions and Problems of the Instruction for Pronunciation in the Korean Textbooks: Focusing on Monophthong.” *Journal of Bangyo Language and Literature* 26 (2009): 53–80.

- Pak, Changwon. *Hangeul Museum*. Seoul: Sungandang, 2011.
- Pak, Chong-guk. *A Comprehensive Study of Hunminjeongeum*. Kyeore Munhwa 17. Seoul: Sejong Studies Institute, 2007.
- Park, Shin-Hwa. *Arirang*. Houston, TX: Alliance Music Publication, Inc., 1995.
- “Phonetics: Basic Segments of Speech (Vowels II) - YouTube.” Accessed July 24, 2015. [https://www.youtube.com/watch?v=kB8PyODhC\\_8](https://www.youtube.com/watch?v=kB8PyODhC_8).
- “Place of Articulation.” Accessed September 25, 2015. <http://conlang101.blogspot.com/>.
- “Pop Popping Korean Pronunciation.” Accessed August 13, 2015. [http://www.sejonghagdang.org/storage/image/upload/data/SJL027/main\\_loader.html](http://www.sejonghagdang.org/storage/image/upload/data/SJL027/main_loader.html).
- Ramsey, S. Robert. “The Korean Alphabet.” In *King Sejong the Great: The Light of Fifteenth Century Korea*, edited by Young-Key Kim-Renaud, 43–50. Washington, D.C.: International Circle of Korean Linguistics, 1992.
- Rhee, Sang-Jik. “Closure Duration of Plosives and the Underlying Representation of Tense Consonants in Korean.” *Journal of Studies in Language* 23, no. 2 (2007): 269–86.
- Rogers, Henry. *Writing Systems : A Linguistic Approach*. Malden, MA: Blackwell Publishing, 2005.
- Sampson, Geoffrey. *Writing Systems*. Second Edition. Sheffield, UK ; Bristol, CT : Equinox Publishing Ltd., 2015.
- “Sejong Changed the World with Hangeul.” Accessed April 1, 2016. <https://www.youtube.com/watch?v=L665jek6KEk>.
- “Semivowel.” *Wikipedia, the Free Encyclopedia*, September 19, 2015. <https://en.wikipedia.org/w/index.php?title=Semivowel&oldid=681717264>.
- Shin, Jiyoung. *Understanding Speech Sounds*. Revised version. Seoul, Korea: Hankookmunhwasa, 2015.
- Tavin. *English: Schematic Diagram of Different Places of Articulation*, November 16, 2011. Own work. <https://commons.wikimedia.org/wiki/File:PlaceOfArticulation.svg>.
- “Template:IPA Chart/table Vowels - Wikipedia, the Free Encyclopedia.” Accessed August 15, 2015. [https://en.wikipedia.org/wiki/Template:IPA\\_chart/table\\_vowels](https://en.wikipedia.org/wiki/Template:IPA_chart/table_vowels).
- “The IPA Chart | eNunciate.” Accessed July 24, 2015. <http://enunciate.arts.ubc.ca/linguistics/the-ipa-chart/>.

The Korea Foundation. *Hangeul : Korea's Unique Alphabet*. Korea Essentials ; No. 1. Seoul, Korea: Seoul Selection, 2010.

The National Institute of the Korean Language. *Hunminjeongeum: Written plainly so as to be understood by everyone*. Seoul: Treebook, 2008.

“Vowel | Definition of Vowel by Merriam-Webster.” Accessed August 27, 2015.  
<http://www.merriam-webster.com/dictionary/vowel>.

“Vowels.” Accessed March 24, 2016. <http://www.yorku.ca/earmstro/ipa/vowels.html>.

Wilson, Seung Lee. “Problems and Solutions in Teaching Debussy Songs to Korean Students.” D.M.A. dissertation, The University of Wisconsin - Madison, 1988.

Xidnaf. *World's Easiest Writing System: Origin of Hangeul*. Accessed April 1, 2016.  
<https://www.youtube.com/watch?v=K53oCDZPPiw>.

Yi, Chen. *Arirang*. King of Prussia, PA: Theodore Presser Company, 1999.

Yun, Misook. “A Study of Korean Diction for Singers.” D.M.A. Lecture Document, University of Oregon, 1999.

“국립국어원 20 년사 - 한글 맞춤법과 표준어 규정 정비 | 국립국어원.” Accessed March 24, 2017. [http://www.korean.go.kr/niklintro2/20years05\\_01\\_01.jsp](http://www.korean.go.kr/niklintro2/20years05_01_01.jsp).

“제 2 부 표준 발음법 | 국립국어원.” Accessed August 22, 2015.  
[http://www.korean.go.kr/front/page/pageView.do?page\\_id=P000098&mn\\_id=95](http://www.korean.go.kr/front/page/pageView.do?page_id=P000098&mn_id=95).

“[한강수 타령] 경기민요. 2 쪽.” Accessed January 28, 2017.  
[http://blog.daum.net/\\_blog/BlogTypeView.do?blogid=0JP5t&articleno=6970037](http://blog.daum.net/_blog/BlogTypeView.do?blogid=0JP5t&articleno=6970037).

APPENDIX A

Comparison IPA chart

Korean consonants

|   | A <sup>180</sup> | B <sup>181</sup> | C <sup>182</sup>  | D <sup>183</sup> | E   | F      | G    | H     |
|---|------------------|------------------|-------------------|------------------|-----|--------|------|-------|
| ㄱ | g                | g, k̄            | k/g               | g                | g/k | k'/ g  | k/g  | g     |
| ㄲ | k'               | kk               | k <sub>...</sub>  | k                | kk  | k-k̄   | g:g  | (s)k  |
| ㅋ | k'               | k                | k <sup>h</sup>    | k̄               | k   | k'     | k    | kh    |
| ㄴ | n                | n                | n                 | n                | n   | n      | n    | n     |
| ㄷ | d/t              | d/t̄             | t/d               | ɖ                | d/t | t'/ d  | t/d  | d     |
| ㄸ | t'               | tt               | t <sub>...</sub>  | t̄               | tt  | t-t̄   | d:d  | (s)t  |
| ㅌ | t'               | t                | t <sup>h</sup>    | t                | t   | t'     | t    | th    |
| ㅍ | s/f              | s                | s                 | s                | s   | s      | s    | s     |
| ㅑ | s'               | ss               | s <sub>...</sub>  | β                | ss  | s'     | s:s  | ss    |
| ㅓ | ʒ'               | dʒ               | tɕ                | dʒ               | dʒ  | dʒ     | dʒ   | j     |
| ㅕ | ts'              | ddʒ              | tɕ <sub>...</sub> | tʃ̄/ts̄          | ts  | tz     | d:z  | (s)ts |
| ㅗ | tʃ̄              | tʃ               | tɕ <sup>h</sup>   | tʃ               | tʃ  | tʃ     | tʃ   | ch    |
| ㅛ | m                | m                | m                 | m                | m   | m      | m    | m     |
| ㅜ | b                | b/ p̄            | p/b               | ɸ                | b/p | p' / b | p/b  | b     |
| ㅠ | p'               | pp               | p <sub>...</sub>  | p̄               | pp  | p-p    | p:p  | (s)p  |
| ㅝ | p/b"             | p                | pî                | p                | p   | p'     | p    | p     |
| ㅇ | o                | ŋ                | ø/ŋ               | ŋ                | ŋ   | ŋ      | ŋ    | ŋ     |
| ㅎ | h                | h                | h                 | h                | h   | h      | h    | h     |
| ㄹ | r/l              | r/ l             | l/r               | r/l              | r/l | r/l    | r/ l | r/l   |

<sup>180</sup> Misook Yun, "A Study of Korean Diction for Singers" (D.M.A. Lecture Document, University of Oregon, 1999).

<sup>181</sup> Ha, "A Conductor's Guide to Selected Sacred Choral Works Composed between 1980 and 2005 by Korean Composers."

<sup>182</sup> Lee, "Korean Diction and IPA."

<sup>183</sup> Kim, "A Study of Korean Art Songs since 1900: Focusing on Pieces by Dong-Jin Kim, Heung-Yeol Lee, and Isang Yun."

Korean vowels

|   | A     | B  | C     | D  | E <sup>184</sup> | F <sup>185</sup> | G <sup>186</sup> | H <sup>187</sup> |
|---|-------|----|-------|----|------------------|------------------|------------------|------------------|
| ㅏ | a     | a  | a     | a  | a                | a/ ɑ             | a                | a                |
| ㅑ | ʌ     | ʌ  | ʌ     | ʌ  | ʌ                | ɔ                | ʌ                | ə                |
| ㅓ | o     | o  | o     | o  | o                | o                | o                | o                |
| ㅕ | u     | u  | u     | u  | u                | u                | u                | u                |
| ㅡ |       | ɯ  | i     | ə  | i                | ɯ                | ɯ                | u                |
| ㅣ | i     | i  | i     | i  | i                | i                | i                | i                |
| ㅚ | e     | e  | e     | e  | e                | e                | e                | e                |
| ㅜ | ɛ     | ɛ  | ɛ     | æ  | ɛ                | ɛ                | ɛ                | ɛ                |
| ㅝ | we    | we | we/ ø | ø  | we               | ø                | we               | œ                |
| ㅞ | wi    | wi | wi    | y  | wi               | y                | wi               | wi               |
| ㅟ | ja    | ja | ja    | ja | ja               | ja               | ja               | ya               |
| ㅠ | jʌ    | jʌ | jʌ    | jʌ | jʌ               | jɔ               | jʌ               | yə               |
| ㅢ | jo    | jo | jo    | jo | jo               | jo               | jo               | yo               |
| ㅣ | ju    | ju | ju    | ju | ju               | ju               | ju               | yu               |
| ㅤ | je    | je | je    | je | je               | je               | je               | ye               |
| ㅥ | jɛ    | jɛ | jɛ    | jæ | jɛ               | jɛ               | jɛ               | jɛ               |
| ㅦ | wʌ    | wʌ | wʌ    | wʌ | wʌ               | wʌ               | wʌ               | wo               |
| ㅧ | wœ    | we | we    | we | we               | we               | we:              | wɛ               |
| ㅨ | wa    | wa | wa    | wa | wa               | wa               | wa               | wa               |
| ㅩ | wɛ    | wɛ | wɛ    | wɛ | wɛ               | wɛ               | wɛ               | wɛ               |
| ㅪ | əi/ e | ɯi | ij    | əi | e/ i             | ɯi               | e                | u/ I             |

<sup>184</sup> Kim, “A Korean Art Song Anthology.”

<sup>185</sup> Seung Lee Wilson, “Problems and Solutions in Teaching Debussy Songs to Korean Students” (D.M.A. dissertation, The University of Wisconsin - Madison, 1988).

<sup>186</sup> Choh, “A Study of Selected Choral Compositions Based on Korean Traditional Children’s Songs by Jung Sun Park.”

<sup>187</sup> Yeong Hoi Cha, “An Analytical Study of Korean-Based Sacred Choral Music: Korean Traditional Music and Its Relation to Fourteen Selected Korean Sacred Choral Works” (D.M.A. dissertation, University of Washington, 2002).

## APPENDIX B

### IPA Vowel Symbols Names Descriptions<sup>188</sup>

|                  | Number | Symbol | Name                       | Description                  |
|------------------|--------|--------|----------------------------|------------------------------|
| Cardinal Vowels  | 1      | i      | Lower-case I               | Close-high front unrounded   |
|                  | 2      | e      | Lower-case E               | Close-mid front unrounded    |
|                  | 3      | ɛ      | Epsilon                    | Open-mid front unrounded     |
|                  | 4      | a      | Lower-case A               | Open-low front unrounded     |
|                  | 5      | ɑ      | Script A                   | Open-low back unrounded      |
|                  | 6      | ɔ      | Open O                     | Open-mid back rounded        |
|                  | 7      | o      | Lower-case O               | Close-mid back rounded       |
|                  | 8      | u      | Lower-case U               | Close-high back rounded      |
| Secondary Vowels | 9      | y      | Lower-case Y               | Close-high front rounded     |
|                  | 10     | ø      | Slashed O                  | Close-mid front rounded      |
|                  | 11     | œ      | O-E Ligature               | Open-mid front rounded       |
|                  | 12     | ɶ      | Small Capital O-E Ligature | Open-mid front rounded       |
|                  | 13     | ɹ      | Turned Script A            | Open-low back rounded        |
|                  | 14     | ʌ      | Turned V; “wedge”          | Open-mid back unrounded      |
|                  | 15     | ɻ      | Baby Gamma                 | Close-mid back unrounded     |
|                  | 16     | ɯ      | Turned M                   | Close-high back unrounded    |
| The Central Set  | 17     | ɨ      | Barred “i”                 | Close central unrounded      |
|                  | 18     | ɥ      | Barred “u”                 | Close central rounded        |
|                  | 19     | ɘ      | Reversed “e”               | Close-mid central unrounded  |
|                  | 20     | ə      | Schwa                      | Mid central unrounded        |
|                  | 21     | ɜ      | Turned epsilon             | Open-mid central unrounded   |
|                  | 22     | ɛ̞     | Turned type “a”            | Faily-open central unrounded |

<sup>188</sup> “IPA Vowel Names and Description.pdf,” accessed September 12, 2015, <http://www.indiana.edu/~1541/week%203/IPA%20Vowel%20Names%20and%20Description.pdf>.

“Vowels,” accessed March 24, 2016, <http://www.yorku.ca/earmstro/ipa/vowels.html>.



APPENDIX D

Extra IPA Symbols for Disordered Speech (Revised to 2008)<sup>190</sup>

CONSONANTS (other than on the IPA Chart)

|                          | bilabial | labiodental | dentolabial | labiodv. | linguolabial | interdental | bidental | alveolar | velar | velophar. |
|--------------------------|----------|-------------|-------------|----------|--------------|-------------|----------|----------|-------|-----------|
| Plosive                  |          | p b         | p̥ b̥       | p̥ b̥    | t d          | t̪ d̪       |          |          |       |           |
| Nasal                    |          |             | m̃          | m̥       | n            | n̪          |          |          |       |           |
| Trill                    |          |             |             |          | r            | r̪          |          |          |       |           |
| Fricative median         |          |             | f̥ v̥       | f v      | θ ð          | θ̪ ð̪       | h̪ ɦ̪    |          |       | ɸ ɸ̥      |
| Fricative lateral+median |          |             |             |          |              |             |          | ɬ ɮ      |       |           |
| Fricative nasal          | m̃       |             |             |          |              |             |          | ñ       | ɳ     |           |
| Percussive               | ɸ̥       |             |             |          |              |             | ɸ̥       |          |       |           |
| Approximant lateral      |          |             |             |          | l̥           | l̪          |          |          |       |           |

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

DIACRITICS

|    |                      |    |                         |          |                         |     |
|----|----------------------|----|-------------------------|----------|-------------------------|-----|
| ɸ̥ | labial spreading     | ɸ̥ | strong articulation     | f̥       | denasal                 | m̃  |
| ̥  | dentolabial          | ̥  | weak articulation       | v̥       | nasal escape            | ̥   |
| ̪  | interdental/bidental | ̪  | reiterated articulation | p̥\p̥\p̥ | velopharyngeal friction | ɸ̥  |
| ̥  | alveolar             | ̥  | whistled articulation   | ɸ̥       | ingressive airflow      | p̥↓ |
| ̥  | linguolabial         | ̥  | sliding articulation    | θ̥       | egressive airflow       | ↑f̥ |

CONNECTED SPEECH

|   |                                  |
|---|----------------------------------|
| ( )   | short pause                      |
| (.)   | medium pause                     |
| (...)                                       | long pause                       |
| f   | loud speech [({ loud }f)]        |
| f̥  | louder speech [({ louder }f̥)]   |
| p   | quiet speech [({ quiet }p)]      |
| p̥  | quieter speech [({ quieter }p̥)] |
| allegro                                     | fast speech [({ fast }allegro)]  |
| lento                                       | slow speech [({ slow }lento)]    |
| crescendo, ritalando, etc. may also be used |                                  |

VOICING

|   |                           |     |
|---|---------------------------|-----|
| ̥ | pre-voicing               | ̥   |
| ̥ | post-voicing              | ̥   |
| ̥ | partial devoicing         | ̥   |
| ̥ | initial partial devoicing | ̥   |
| ̥ | final partial devoicing   | ̥   |
| ̥ | partial voicing           | ̥   |
| ̥ | initial partial voicing   | ̥   |
| ̥ | final partial voicing     | ̥   |
| ̥ | unaspirated               | p̥  |
| ̥ | pre-aspiration            | ̥p̥ |

OTHERS

|                     |   |   |  |
|---------------------|---|---|--|
| ( ), ( ̥ ), ( ̥ )   | indeterminate sound, consonant, vowel       | ɰ | Velodorsal articulation                      |
| ( ̥ ), ( ̥ ), ( ̥ ) | indeterminate voiceless plosive, nasal, etc | ̥ | sublaminal lower alveolar percussive click   |
| ( )                 | silent articulation (j), (m)                | ̥ | alveolar and sublaminal clicks (cluck-click) |
| ( )                 | extraneous noise, e.g. ((2 sylls))          | * | sound with no available symbol               |

© ICPLA 2008

<sup>190</sup> “extIPA SYMBOLS FOR DISORDERED SPEECH - extIPACChart2008.pdf,” accessed April 21, 2016, <https://www.internationalphoneticassociation.org/sites/default/files/extIPACChart2008.pdf>.

APPENDIX E

List of Audio Examples

| File | Contents      | Page | File | Contents                              | Page |
|------|---------------|------|------|---------------------------------------|------|
| 1    | 이             | 32   | 31   | ㅇ                                     | 67   |
| 2    | 에             | 32   | 32   | ㅡ                                     | 67   |
| 3    | 애             | 32   | 33   | ㄱ (Final position)                    | 72   |
| 4    | 아             | 33   | 34   | ㄴ (Final position)                    | 73   |
| 5    | 오             | 34   | 35   | ㄷ (Final position)                    | 73   |
| 6    | 우             | 35   | 36   | ㄹ (Final position)                    | 74   |
| 7    | 위             | 35   | 37   | ㅁ (Final position)                    | 74   |
| 8    | 외             | 35   | 38   | ㅂ (Final position)                    | 75   |
| 9    | 어             | 36   | 39   | ㅇ (Final position)                    | 75   |
| 10   | 으             | 37   | 40   | 아리랑                                   | 76   |
| 11   | 야             | 42   | 41   | 나를                                    | 76   |
| 12   | 여             | 42   | 42   | 가시는님은                                 | 77   |
| 13   | 요             | 42   | 43   | 깊고 맑은 물에                              | 77   |
| 14   | 유             | 42   | 44   | 에루화 뱃놀이 가잔다                           | 78   |
| 15   | 예             | 42   | 45   | 아리랑                                   | 82   |
| 16   | 애             | 42   | 46   | 아라리요                                  | 82   |
| 17   | 와             | 43   | 47   | 고개로 (를)                               | 82   |
| 18   | 워             | 43   | 48   | 넘어간다                                  | 82   |
| 19   | 왜             | 43   | 49   | 나를                                    | 82   |
| 20   | 웨             | 43   | 50   | 버리고                                   | 82   |
| 21   | 의             | 43   | 51   | 가시는                                   | 82   |
| 22   | ㅂ, ㅃ, ㅍ       | 67   | 52   | 님은                                    | 82   |
| 23   | ㄷ, ㅌ, ㅌ       | 67   | 53   | 십리도                                   | 82   |
| 24   | ㄱ, ㅋ, ㅋ       | 67   | 54   | 못가서                                   | 82   |
| 25   | ㅈ, ㅉ, ㅉ       | 67   | 55   | 발병난다                                  | 82   |
| 26   | ㅅ, ㅆ          | 67   | 56   | 온땅이여,<br>여호와께 즐거이 부를찌어다               | 84   |
| 27   | ㅅ, ㅆ with [i] | 67   | 57   | Lyrics of “Doraji”                    | 89   |
| 28   | ㅎ             | 67   | 58   | Lyrics of “Blue Bird”                 | 90   |
| 29   | ㅁ             | 67   | 59   | Lyrics of “Hangangsu Taryeong”        | 91   |
| 30   | ㄴ             | 67   | 60   | Lyrics of “Gyeongbokkung<br>Taryeong” | 92   |